e Iron A

A Review of the Hardware, Iron and Metal Trades.

Published every Thursday Morning by DAVID WILLIAMS, No. 83 Reade Street, New York. Entered at the Post Office, New York, as Second-Class Matter.

Vol. XXIV: No. 25.

New York, Thursday, December 18, 1870.

\$4.50 a Year, Including Postage. Single Copies, Ten Cents.

Watts' Three-Cylinder Engine and

Among the new engines exhibited at the Kilburn Show some months since was a three-cylinder engine, designed by Mr. C. three-cylinder engine, designed by Mr. C. T. Watts, of the Cordova Works, Grove Road, London. The chief point of interest of the engine is that it is the first one of the type with a variable expansion adjustable by the governor. From the accompanying engravings, for which we are indebted to Engineering, it will be seen that the cylinders a a a are placed side by side above the crank shaft, and are single acting, being fitted each with a deep piston, b, and tubular connecting rod, d. The three-throwcrank-shaft c c is made without intermediate bearings, having made with it, on the crank webs, three cams, g g g. Each cam gives a reciprocating motion to a friction roller, k, and through it by the lever j to the valve webs, three cams, g g. Each cam gives a reciprocating motion to a friction roller, k, and through it by the lever j to the valve rod e!. The valve itself is of the piston type, and rests on the top of the rod e!, being held against it always by steam pressure. In this way the roller k is kept up always against the cam. So long as the fulcrum of j remains in one position the cutoff remains, of course, unaltered. But this fulcrum is a pin in the lever i, which is keyed on a spindle, h, to which an angular motion can be given by the governor l. The position of i at any instant depends, therefore, on the position of the governor, which in this way (the form of the cam being suitably designed) regulates the cut-off automatically. The lever l', shown in Fig. 2, is simply used for increasing the available throw of the governor. Its outer end is linked to a shortarm, h', on the spindle h, mentioned above. This spindle is arranged so as to cut off at any point between one and seven-eighths of the stroke, and to open the valve fully, even at the early cuts-off.

the stroke, and to open the valve fully, even at the early cuts-off.

Figs. 4 and 5 illustrate Mr. Watts' patent high-pressure boiler in one of its latest forms. The boiler shell is a flat-sided, nearly rectangular vessel, in which the place of stays is taken by tubes. The products of combustion pass through these first from front to back, then from one side to the other, and down to the bottom of the boiler, and only at the last (when they are too much reduced in temperature to overheat the reduced in temperature to overheat the tubes) from bottom to top, through tubes partly in water and partly in steam space. The tubes acting as stays are secured, as shown, by double nuts at each end. The boiler is set in brick work, arranged so as to be easily accessible in its different parts. It has a horizontal cylindrical steam chest placed above it, as shown in Fig. 4. These boilers are proved to 140 pounds per square

SCIENTIFIC AND TECHNICAL.

Capt. John E. Greer, of the Ordnance Department, U. S. A., gives the following account of

A NOVEL USE OF THE TELEPHONE. A NOVEL USE OF THE TELEPHONE.

Hitherto the accurate determination of the time of flight of small-arm projectiles has been practically impossible at long ranges, owing to our inability to see them strike, even when firing over water. The discovery of the telephone has opened up to us a simple as well as a novel means of obtaining the time desired, and has also afforded us the means of verifying the formulas by which these times were formerly adduced. In these experiments two telephones provided with Blake transmitters (a form of Edison's carbon telephone) were used. One was placed within a few feet of the gun, and was placed within a few feet of the gun, and left open to receive and transmit the sound of the discharge. The other was in the front of the right edge of the target. stop watch, beating fourths of a second, was used in connection with it. The telephone being at the ear, the instant the sound of the discharge was received at the target the watch was started, and, on the bullet striking, was stopped. A mean of a large number of observations, which rarely differed more than a quarter to half of a second from each other, gave the time of flight. Of course there is a slight delay in starting the watch, but this is neutralized by a similar one in stopping it. The time given may, therefore, be accepted as strictly correct. It is worthy of notice that the times vary on different days, being shortened by a rear and lengthened by a head wind. The velocity of sound may be readily obtained with the telephone in the same manner. The time for the sound of the discher. discharge passing through the air was al-ways shown by the watch, but as it was not desirable for my purpose to stop the watch until the bullet reached the target, these times were not taken.

An interesting and expensive experiment has just been concluded in England with

PERKINS' HIGH PRESSURE ENGINE SYSTEM.

Mr. J. C. Lambert some time since built a yacht, the Wanderer, 175 feet long, 29 feet beam, 13 feet average draft and 700 tons measurement, and determined to give the Perkins system of using steam of 400 lbs. pressure a trial. The vessel was accordingly fitted up with three cylinders, 48, 34 and 17 inches in diameter-respectively, the 17-inch cylinder standing on top of the 34-inch cylinder. These two were single acting, the pistons being connected by their rods. Steam of 400 lbs. pressure was admitted to the top

of the 17-inch piston, sending it down, and then passing under the 34-inch piston sent it up. From this cylinder it went into the valve chest of the 48-inch cylinder, the piston of which was double acting, in the usual way. The stroke of all the pistons was 2 feet 6 inches. One of the essential features of the system is that steam is generated from distilled water, and to make up for waste, distilled water, and to make up for waste, distilled water is carried along in tanks. Therefore the waste ought never to exceed 5 per cent. of the whole quantity required for the feed. This was not the case in the Wanderer engines, with which much is trouble was experienced, besides, in connections.

to be that gas by a test with lime water. M Delesse, who in this point is supported by M. Dumas, gives the following explanation of the presence of such enormous quantities of gas, estimated at a maximum of 160,000 cubic feet: Near the coal seam is a deposit of iron pyrites, which, by a decomposition, furnishes a large quantity of sulphuric acid. The latter is dissolved in the water circulating in the rocks, and is carried to strata of limestone underlying the coal, which it decomposes, setting free large masses of car-bonic acid. The latter gathers in seams and vuggs, and not being able to escape reaches a high pressure.



The following is a description of a new process of coating iron with a film of copper, which is of French origin. The metallizing bath and the best proportions of ingredients are indicated in the following discretization. rections: First, 35 parts of crystallized sulphate, or an equivalent amount of any other salt of copper, are precipitated as hydrated oxide by means of caustic soda or some other suitable alkaline base; this oxide of copper Rochelle salt and dissolved in 1000 parts of water; to this add 60 parts of best caustic water; to this add oo parts of best caustic soda, containing about 70 per cent. NaO, is to be added, when a clear solution of copper will be formed. Other alkaline tartrates may be substituted for the Rochelle salt above mentioned, or even tartaric acid may be employed; but in the case of tartaric acid or acid tartrates a small additional quantity of caustic alkali must be added, quantity of caustic alkali must be added, sufficient to saturate the tartaric acid or acid tartrate. Oxide of copper may also be employed, precipitated by means of hypochlorite, but in all cases the 'proportions between the copper and the tartaric acid should be maintained as above, and it is advantageous not to increase to any notable extent the proportion of the caustic soda. The object to be coppered is to be cleaned with a scratch brush in an alkalino-organic bath, attached as a cathode, immersed in the coppering bath and treated with the usual precautions, when it will become usual precautions, when it will become rapidly coated with an adherent film of

rapidly coated with an adherent film of metallic copper.

As the bath gradually loses its copper, oxide of copper, as above prepared, should be added to maintain it in a condition of be added to maintain it in a condition of activity; but the quantity of copper introduced should not ordinarily exceed that above prescribed, as compared with the quantity of tartaric acid the bath may contain. If the quantity of copper notably exceeds this proportion, certain metallic irisations are produced on the surface of the object. These effects may be employed for a prescribed and artistic numperses. According ornamental and artistic purposes. According to the time of the immersion, the strength of the current and the proportion of copper to the tartaric acid, these iridescenses may be produced of different shades cenes may be produced of different shades and tints, which may be varied or intermingled by shielding certain parts of the object by an impermeable coating of paraffine or varnish while the iridescent effect is being produced on the parts left exposed. All colors, from that of brass to bronze, scarlet, blue and green, may be thus produced at will. If it be desired to deposit pickel the only modification of the above duced at will. If it be desired to deposit nickel, the only modification of the above process requisite is the substitution of pre-cipitated oxide of nickel for the oxide of

copper, produced by precipitation, as above Preservation of Iron Surfaces.—In a note on this subject Mr. C. Graham Smith

says: The paints used for ironwork are of every description, name and quality. The

against corrosion may be divided into lead, iron oxide, silicate and tar paints. Differences

of opinion exist as to the relative merits of the first three descriptions, but the experi-

ence of three foremen painters connected

with establishments in England is decidedly in favor of lead paints, when of good quality and mixed with good oil without spirits. Unfortunately, there are no reliable, practical tests to insure good materials alone being

varie

Fig. 2.—End View of Watts' Engine. OO 0 0 0 0 O O 0 0

Fig. 1 .- Section of Watts' Engine.

Fig. 4.—Vertical Section of Watts' High Pressure Boiler.

Fig. 3.—Longitudinal Section of Watts' Engine.

WATTS' THREE CYLINDER ENGINE AND BOILER.

tion with the slide valve of the 48-inch cyl- | where the rubber diaphragm is adjusted to | pit on the 807-foot level, were asphyxiinder. It was found during a trial trip in the Bay of Biscay that, owing to an im-proper distribution of the weight, the ship rolled fearfully, and that other drawbacks rendered the machinery unfit for the purpose. The Engineer, in discussing the failure, says that while it is not fatal to high pressures, the system has a future only if the consumption of fuel can be reduced to 1.25 lb. per hour per horse power.

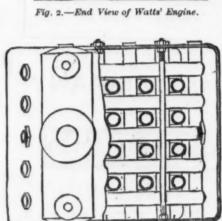
The Engineer, in a recent issue, gives a fac-simile of an old print illustrating THE NEWCOMEN ENGINE IN 1712.

from which it appears that the self-acting valve gear was used by him about 6 years earlier, at least, than is generally supposed on the authority of Desagulier's "Experi-

it, the glass tube is somewhat expanded in diameter, so as to form, with the diaphragm for a floor, a receptacle capable of holding a few minims of water colored with carmine. The remainder of the tube has the internal diameter of that of our ordinary medical thermometer. When the disk of the instru-ment is placed firmly upon or against the wrist, the vibration of the tissues beneath caused by the artery is communicated to it, and the colored liquid dances up and down in the tube, registering to the eye of the practiced physician the force and particular description of each wave. Simple as the instrument is, its delicacy and accuracy are

M. Delesse has drawn the attention of the Academy of Sciences to

pit on the 807-foot level, were asphyxiated. An examination of the mine proved beyond a doubt that the explosion was not due to fire-damp; no flames had accompanied them, there were no traces of fire, and cartridges prepared for blasting had not been exploded. Fire-damp had never been noticed at the Rochebelle Mine, and all lamps used were open, but, on the other hand, the presence of carbonic acid had often been observed, and 6 to 7-foot holes had always been kent ahead of the workingsin order to facilikept ahead of the workings in order to facili-tate the escape of the gas. Sometimes the miners had to leave work, notwithstanding this precaution. The gallery was filled for a length of 50 feet with fragments of coal, and an opening 30 feet deep was found ahead. Carbonic acid rose within 160 feet of the surface, and it could be readily proved



used. Consequently, both the colors and the oils are often inferior in quality and much adulterated. For these reasons and on account of cheapness, iron oxide paints are by some preferred. A little white lead mixed with red makes it go further and easier to work into corners. If the first coats are put on with pure red lead, owing to its weight it is liable to run off; but the last coat should consist of red lead alone. The tar paints are Fig. 5 .- Plan of Watts' Boiler. more often used for ironwork which is not to be seen, such as water pipes, floor plates for bridges, and girders which are to be built into masours of brickwork. It is cheap and answers well less such purposes and for sea-work, as it is said not to foul so readily as lead or other paints of a finer description. A good rough paint is made by heating coal tar and mixing with it finely sifted slaked lime, in the proportion of besifted slaked lime, in the proportion of between half a pound and a pound of lime to a
gallon of tar, adding sufficient naphtha to
render it of a convenient consistency for
laying on. This composition should be applied while hot, but not too hot. Do not
keep it over the fire too long, or it will lose
its essential oils. Some positions admit of
the paint being sanded, in which case it
should be done, as it adds to its durability.
Before painting iron, give it a coat of boiled
inseed oil applied hot,

ES

ers.

S

Metals.

ANSONIA BRASS & COPPER CO..

No. 19 Cliff Street, ling, NEW YORK

BRASS AND COPPER

Sheets, Bolts, Rods, Wire, &c. Seamless Brass & Copper Tubing.

Ansonia Corrue ated Stove Platforms. PURE COPPER WIRE For Electrical Purposes, Bare and Covered.

Phosphor Bronze Rods for Pumps, &c. ANSONIA REFINED

INCOT COPPER. PHELPS, DODGE & CO

TIN PLATE,

ROOFING PLATE,

Sheet Iron, Copper, Pig Tin, Wire, Zinc, &c. MANUFACTURERS OF

COPPER AND BRASS.

NEW YORK CLIFF STREET,

SCOVILL MFC CO

BRASS, HINGES, WIRE, GERMAN SILVER

PHOTOGRAPHIC GOODS.

BUTTONS, CLOTH AND METAL.

DEPOTS, 419 4 421 Brooms St., N. Y. 177 Devonshire St., Boston. 183 Lake St., Chicago.

DICKERSON & CO., Liverpool.

FACTORIES. Waterbury, Conn. New Haven, Conn New York City.

DICKERSON, VAN DUSEN & CO., Tin Plate, Pig Tin, Sheet Iron, Cooper,

Wire, Zinc, Etc. 29 & 31 CHE St., cor. Fulton, Metals.



CAPITAL, - - \$400,000. Sheet, Roll and Platers' Brass, GERMAN SILVER. Copper, Brass and German Silver Wire,

BRASS AND COPPER TUBING, COPPER RIVETS & BURS. BRASS KETTLES,

Door Rail, Brass Tags PERCUSSION CAPS, POWDER FLASHS,

Metallic Eyelets, Shot Pouches, Tape Measures, &c And small Brass Wares of every Description. Cartridge Metal in Sheets or Shells a Specialty Sole Agents for the

Capewell Mfg. Co.'s Line of Sporting Goods and Wood's Paper Shot Shells. DEPOTS: Wills At

296 Broadway, New York. 189 Eddy St., Providence, R. I. Conn. Manhattan Brass Co.,

Manufacturers of

Copper Rivers

Olmsted Patent Oilers, Olmsted Patent Ollers, Prior Patent Ollers, Broughton Patent Ollers Brass, Tin & Zinc Ollers Brass Butt Hinges, Hurricane Lanterns.

WATERBURY,

Fire Sets. Fenders, &c. BRASS BLANKS & TUBES

OFFICE AND WORKS, 1st Ave., 27th to 28th St., New York.

THE NEW HAVEN COPPER CO.,

255 Pearl Street, New York.

Braziers' & Sheathing COPPER.

Kettle Bottoms, Bolts, Circles, Rivets, NEW YORK. Ingot Copper, Spelter, Solder, &c.

CONDIT, WICK & CO.,

Sheet, Tank and Plate Iron, Nails, Glass, Horse Shoes, Horse Nails, and other articles of HEAVY HARDWARE.

CLEVELAND, OHIO.

N. & C. TAYLOR CO., Philadelphia. ESTABLISHED 1810.

TIN PLATES

Cheese Vats, Cream Pans, Milk Cans, &c.
Send for our special prices

N. & G. TAYLOR CO. Can make any

ABRAM S. HEWITT, President WM. HEWITT, Vice President.

JAMES HALL, Treasurer E. HANSON, Secretary

THE TRENTON IRON COMPANY,

TRENTON, NEW JERSEY,

IRON and STEEL W

OF ALL CRADES, BRIGHT, ANNEALED, COPPERED, TINNED AND GALVANIZED Iron and Steel Wire Rods;

EXTRA QUALITIES OF BAR IRON AND RODS. Best Qualities of Gun-Screw and Charcoal Iron Wire;

Crucible, Siemens-Martin and Bessemer Steel Wire. Wire Straightened and Cut to Lengths.

Represented in New York by COOPER, HEWITT & CO., 17 Burling Slip.

BRODERICK & BASCOM.

IRON



STEEL

St. Louis, Mo.

Metals.

The Plume & Atwood Mfg. Company,

MANUFACTURERS OF

SHEET and ROLL BRASS and WIRE

German-Silver and Gilding Metal, Copper Rivets and Burs,

Kerosene Burners,

Lamp Trimmings, &c. 80 Chambers Street, New York.

13 Federal Street, Boston. 109 Lake Street, Chicago. Rolling Mill. Factories, Rolling Mill, Factories,
THOMASTON, Ct. WATERBURY, Ct.

Bridgeport Brass Co.,

Sheet and Roll Brass, Brass & Copper Wire & Tubing, German Silver Metal and Wire, Copper and Iron Rivets.

OILERS and CUSPADORES, | LAMPS and TRIMMINGS, LANTERNS and TRIMMINGS. | KEROSENE BURNERS, Clocks & Fly Fan Movements. PLUMBERS' MATERIALS. Particular attention paid to cutting out Blanks and nufacturing Metal Goods MANUFACTORY.

Bridgeport, Conn. 19 Murray St., N. Y Harrison Wire Company

ST. LOUIS, MO.

MANUFACTURERS OF

All kinds of

IRON & STEEL WIRE

Wire Mill Specialties. Holmes, Booth & Haydens,

WATERBURY, CONN.

Manufacturers of all kinds of Brass, Copper & German Silver, BOLLED AND IN SHEETS.

BRASS & COPPER WIRE,

Tubing, Copper Rivets & Burs. BRASS & IRON JACK CHAIN, DOOR RAIL.

German Silver Spoons, SILVER PLATED FORKS & SPOONS. Kerosene Burners, &c.

JOHN DAVOL & SONS

Brooklyn Brass and Copper Co., Ingot Copper, Spelter, Lead, Tin, Antimony, Solder & Old Metals.

Pure Spelter

Cartridge Brass, Gas Fixtures, Bronzes AND ALL PINE WORK. Also for

Galvanizers & Brass Founders. MANNING & SOUIER, Gen'l Agents 113 Liberty Street, N. Y.

Geo. W. Prentiss & Co., HOLYOKE, MASS.,



Bright, Coppered, Annealed and Tin Plated, Also GUN SCREW WIRE.

GAUTIER WIRE

See page 28.

Mire, etc.

PHILIP L. MOEN. President & Treasurer.

Restablished 1831.

WORCESTER, MASS.

CHAS. F. WASHBURN

WASHBURN

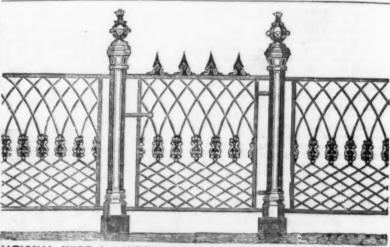
Established 1831.

WORCESTER, MASS.

Iron and Steel

Patent Steel Wire Bale Ties. WIRE BODS of all Grades; Round fron, Rivet quality, 2-16 in. to % in., cut to any length. Owners and experience of the PATENT CONTINUOUS ROLLING MILL, producing from and Steel Willed as of 100 pounds, without saxs or weed. Patent Galvanised Telegraph Wire, Market and Stone was of 100 pounds, without saxs or weed. Patent Galvanised Telegraph Wire; Rope, Bridge, Bolt, Screw, Rivet, But and the control of the c

WAREHOUSE, 21 CLIFF STREET, NEW YORK, St. Louis Office, 717 North 2d Street,



NATIONAL WIRE & LANTERN WORKS. Warehouse, 45 Fulton St. N. Y. HOWARD & MORSE.

Manufacturers of Brass, Copper & Iron Wire Cloth, Locomotive Spark Wire Cloth, Iron Wire Bolting Cloth, Ship and Railroad Lanterns, Signal Lights, Conductors' Lantern, Adjustable Globe Hand Lantern, Desk & Office Railing, Hiddles Coal & Sand Screens, Nursery Fenders & Spark Guards, Ornamental Wire Fence.

WORKS

ROEBLING'S

TRENTON,

New York Office

Warehouse 117 Liberty Street

WIRE ROPE

Iron, Steel and Copper

Hoisting Purposes of all kinds, for Ferries, Stays, Ship Rigging, Sash Cords, Lightning Rods, &c., &c. Suspension Bridge Cables.

GALVANIZED Telegraph Wire. Market Wire,

Vineyard Wire.

Iron and Steel WIRE

Market Wire, Pence Wire Bridge Wire, Chain Wire, Buckle Wire, Spring Wire, Rivet Wire, &c., &c.

CALVANIZED WIRE CLOTHES LINES.

For Hoisting, Running & Standing Ropes, Ferries, &c. CONSTANTLY KEPT ON HAND. Address, HAZARD MFG. CO., Wilkesbarre, Luzerne Co., Pa.

J. LLOYD HAIGH,

Cast Steel, Bessemer Steel & Iron Wire

WIRE ROPE FOR Mines, Elevators, Inclined Planes, Derricks, Stays, Ship Riggins Sash Cord, GALVANIZED WIRE CLOTHES LINES SUSPENSION BRIDGE CABLES.

Bright, Coppered, Annealed, Tinned, Rivet, Spring, Machinery, Chaiv Buckle, &c. Also Fence and Vineyard Wire.

Galvanized Steel Barb FENCING WIRE, Plain and Twisted, and Staples.

Galvanized Telegraph Wire, Patent Tempered Cast Steel Furniture Springs. OFFICES: 81 John St., New York. WORKS-South Brooklyn.

Manufacturer of WIRE.

TROY, N. Y.

J. WOOL GRISWOLD,

John Carver, MANUFACTURES OF CAULKING IRONS,

Cotton, Freight and Hay Hooks, No. 44 North Third Street, BROOKLYN, E. D. Illust cation. The

SO

P. O. B Man Hardy Kerose

R. ! Dea



O. LINDEMANN & CO. Japanned, Brass and Tin-Plated

> BIRD CAGES. Being the inventors and patent

ees of BRIGHT METAL CAGES, constructed without solder, we are enabled to sell our Brass and Tin-Plated Cages cheapr than any other

954 Pearl St. NEW YORK. CARY & MOEN,



Also Patent Tempered Steel Furniture Springs, constantly on hand.

OUR LOCK SPECIALTIES.

YALE LOCKS, STANDARD LOCKS, CABINET LOCKS. PAD LOCKS, PRISON LOCKS.

Illustrated Catalogues and Price Lists sent free on application. Address

YALE LOCK MFG. CO.,

STAMFORD, CONN. Office and Works,

SALESROOMS:

53 CHAMBERS ST., NEW YORK.

506 Commerce St., Philadelphia. 36 Pearl St., Boston.

WIRE RAILING

Ornamental Wire Works.

DUFUR & CO.,

No. 36 North Howard St., Baltimore.

Manufacture WIRE RAILING for Cemeteries, Balconles, &c.; Sleves, Fenders, Cages, Sand and Coal
Screens, Woven Wire, Iron Bedsteads, Chairs,



Mannfacturers of Patent Scandinavian or Jail Locks, Brass Pad Locks for Railroads and Switches. Also Patent Stationary R. R. Car Door Locks. Patent Plano and Sewing Machine Locks. 14 to 145 Railroad Avenue, Newakk, N. J. Illustrated Catalogue sent to the trade on appli-

e

Hile

S. BLONDHEIM, Sec'y. I. SCHOENBERG, Pres. The Schoenberg Metal Mfg. Co.,

Manufacturers of and Dealers in SOLDER, TYPE, Stereetype, Electretype and Babbitt Metals, Importers of Block Tin, Antimony, &c. Refluers of Lead, Spelter, &c. Highest price paid for Oid Metals and all kinds of Dross. 511 and 513 Knst 19th Street, between Avenues A&B, New York.

S. L. SAMUEL. P. O. Box 1300. 57 Cedar St., N. Y. Manufacturers' EXPORT Agent for Hardware, Brassware, Classware, Wooden Wahle,
Kerosene Goods, Burners, Wicks, Oil.
Late Agent for Wa. H. Sanuel. & Co.
Orders sent direct will save the purchaser all intermediate profits.

R. SELLEW & CO. Dealer in METALS. Tin Plate, Sheet Iron, Copper, &c. SAINT LOUIS.

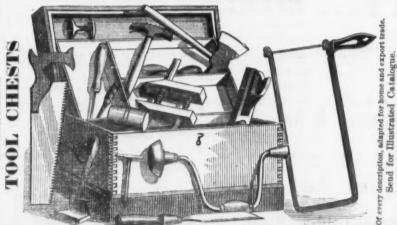
MONITOR TIN PLATE WORKS,

54 Cliff Street, New York

Manufacturers of LARGE TINNED SHEETS for DAIRY and OTHER PURPOSES, COTTON CANS, Guaranteed Equal in Every Respect to Best Imported.

AMERICAN TOOL CO.

116 Chambers Street, New York.



MECHANICS' TOOLS & HARDWARE SPECIALTIES.

E. OLIVER'S PATENT ADJUSTABLE BOTTOM IRON RIM



MOULDER'S RIDDLE. The above RIDDLE has been pronounced, after trial by some of the largest Founders, to be superior to any RIDDLE in the market. The attention of all parties requiring Sieves and Riddles is called to the merits and advantages of the IRON RIM ADJUSTABLE BOTTOM RIDDLES. They are made of brass, steel and galvanised wire. We also keep in stock Oak Wood Rim Riddles, Wire Window Guards, and Wire Goods in general, at the Lowest Figures.

American Wire Works,

106 and 108 BEEKMAN STREET.

Properties of the Alloys of Copper Variation in Strength of Gun Bronze,

COMPARISON OF RESISTANCES.

It appears that the tensile and compressive strengths of the alloys are in no way re-lated to each other, that the torsional strength is closely proportional to the tensile strength, and that the transverse strength may depend, in some degree, upon the compressive strength, but it is much more nearly related to the tensile strength. The modulus of rupture, as obtained by the transverse tests, in general, a figure be-tween those of tensile and compressive strengths per square inch, but there are a few exceptions in which it is larger than

From the table of transverse, tensile and From the table of transverse, tensile and torsional strengths, it is seen that the strengths of the alloys at the copper end of the series increase rapidly with the addition of tin till about 4 per cent. of tin is reached. The transverse strength continues regularly to increase to the maximum, till the alloy to increase to the maximum, till the alloy containing about 17½ per cent. of tin is reached, while the tensile and torsional strengths also increase, but vary irregularity, to the same point. As this irregularity corresponds to the irregularity in the specific gravities, it is probably due to porosity of the metal, and might possibly be removed by any means which would make the castings more compact. The maximum point of the three tables is reached at the same point, viz., at the alloy containing 82.70 copper, 17.34 tin, the transverse strength, however, being very much greater at this point than the tensile or torsional strength. From the point of maximum strength. From the point of maximum strength the figures of the three tables drop very rapidly to the alloys containing about 27.5 per cent. of tin, and then more slowly to 37.5 per cent. at which point the minimum (or nearly the minimum) strength, by all three methods of test, is reached. The alloys of minimum strength are found from alloys of minimum strength are found from 3.75 per cent. tin. the observation being somewhat irregular between these points, making it difficult to state the exact minimum points, but agreeing in showing great weakness. The absolute minimum is probably about 45 per cent. of tin.

of tin.

From 52.5 per cent. of tin to about 77.5 per cent. tin there is a rather slow and irregular increase in strength to the point which has been called the second maximum, the transverse stress at this point, as at the first maximum, rising much higher than the other two figures. The former, also, does not reach its second maximum at the same point as the two latter, but this may be accipated. not reach its second maximum at the same point as the two latter, but this may be accidental. From 77.5 per cent tin to the end of the series, or all tin, the strengths slowly and somewhat irregularly decrease, the second minimum being reached at the end of the curve. It will be noticed that the irregularity of the torsional strength is much less than those of the others, which is probably due to the fact that in the torsional tests the time occupied in making the tasts was year. time occupied in making the tests was very uniform, and also that the figure for torsional stress is made from the average results of, usually, four tests of each bar, while the tensile tests were but two in number from each bar and the transverse tests but one. One of the most important facts to be learned from the tables is that all the alloys containing more than 25 per cent. tin are practically worth-less for all purposes where strength is required, the average strength of these alloys being only about one-sixth of the average of that containing less than 25 per cent. of

COMPARISON OF DUCTILITY.

The ductility in the tensile tests was de-termined by direct observations of the elon-gations of the pieces under tension. In the cases of the brittle alloys these elongations were such very small quantities that they could not be measured. The ductility in the transverse tests was determined by the final deflections before breaking, and this was always an appreciable quantity, even with the brittle alloys. The ductility by torsional tests is determined from the extension of the exterior fiber or line of particles in the torsion piece z inch long in parts of an inch, which is calculated from the angle of torsion given by the autographic strain diagram. This gives a correct comparison of the relative ductility of all the pieces tested, whether very brittle or very ductile, and the comparative ductility is given in the figures in the table of summary of results. The maximum angle of torsion given in the summary is 556.75 degrees, which corresponds to an extension of 2.1975 inches of a line of particles originally 1 inch long, on a cylinder 56 ticles originally I inch long, on a cylinder ½ inch in diameter, on the supposition that the diameter and length of the cylinder while being twisted remained unchanged. The minimum angle of torsion is 0.4 degree, which corresponds to an extension of only 0.00006 inch. The alloys containing less than 12.5 per cent. and more than 87.5 per cent. of tin, are so ductile that bars 22 inches in least the boat to a deflection of more than in length bend to a deflection of more than 3½ inches without breaking, and their comparative ductility is not, therefore, deterparative ductility is not, therefore, determined by this method of test. Bar No. 1, all copper, is an exception, but it was considered to be a defective bar. Bar Ne. 30, all copper, bent without breaking. Beginning at pure copper, the ductility increases slightly with the addition of tin till from 2 to 4 per cent. between which limits the resistance of the strenger all the resistance of the strenger all the resistance of the strenger all the strenger all the strengers all the the maximum ductility of the stronger alloys is reached. From this point there is a regular decrease of ductility to 25 per cent. tin, at which point it becomes very small. The record of comparative ductility by tension is then entirely lost up to the alloy containing 75 per cent tin, while that by torsion can be traced from the figures in the table of summary of results. From these figures it is seen that the minimum ductility is reached at from 37.5 to 47.5 per cent. tin, which corresponds nearly to the minimum

which corresponds nearly to the minimum point of strength.

The data of ductility by transverse tested to the trength, commencing at about 12.5 per cent tin, show a regular decrease to about 35 per cent. tin, and from that point to 55 per cent. tin, and from that point to 55 per cent. tin it is nearly uniform, indicating a minimum at 45 per cent, thus agreeing with the results obtained from the torsional with the results obtained from the torsional tests. From 55 per cent. tin there is a very regular increase to 87.5 per cent. tin,

AND MEANS OF IMPROVING THE STRENGTH.

The figures obtained for alloys of 7.5, 10, nd 12.5 per cent. tin. viz.. 27,900, 26,680 and 2.5 per cent. tin, viz., 27,900, 26,680 and 31,100 pounds, are much less than is usually given as the strength of gun metal. It must be remembered, however, that It must be remembered, however, that bronze guns are usually cast under the pressure of a head of metal, which tends to increase the strength and density. The strength of the upper part of a gun casting, or sinking head, is not greater than that of the small bars which have been tested in these experiments. The following are a few extracts that have been made from the report of Major Wade concerning the strength and density of gun bronze:

Bronze Guns made at Chicopee, Mass., 1850.

Specific gravity. Tenacity.

7.997

Tin, one part..... Copper, eight parts (mean of nine samples) 34.252 Extreme variation of six samples from dif-ferent parts of the same gun (a 32-pounder ferent parts of the same gun (a 32-pounder howitzer): Specific gravity, 8.487 to 8.835; tenacity, 26.428 to 52.192. Extreme variation of all the samples tested: Specific gravity, 8.308 to 8.850; tenacity, 23.108 to 54.531. Extreme variation of all the samples from the gun heads: Specific gravity, 8.308 to 8.756; tenacity, 23.529 to 35.484. The materials used in all these castings were of the same quality; they were melted controlled. materials used in all these castings were of the same quality; they were melted, cast and cooled in the same manner, and were designed to be similarly treated in all re-spects. In the conclusion of his report on gun bronze, Major Wade says: "The gen-eral results which are exhibited in this re-port, on the quality of bronze as it is found in guns, are mostly of a negative character. They expose defects in density and strength. in guns, are mostly of a negative character. They expose defects in density and strength, develop the heterogeneous texture of the metal in different parts of the same gun, and show the irregularity and uncertainty of quality which attend the casting of all guns, although made from similar materials, treated in like manner. The ascertained facts which this report exhibits, although they relate chiefly to existing imprefections. races which this report exhibits, although they relate chiefly to existing imperfections in the art of manufacturing bronze, will, it is believed, be found useful. They may serve to awaken the attention of those who may henceforth be concerned in conducting this branch of service, and to suggest such improved methods of treating the materials as will ultimately raise our knowledge of the art to an equality with that which has been obtained in the manufacture of iron cannon." That the strength of ordinary been obtained in the manufacture of iron cannon." That the strength of ordinary ordnance bronze is still variable, 20 years after Major Wade's report was written, is shown by the following records of 12 tests made by the Ordnance Department, United States Navy, and furnished to the writer by Capt. William N. Jeffers, U. S. N., Chief of the Bureau of Ordnance.

Navy Ordnance Bronze, Tested in 1875 and 1876

| | 100 | ** (40045) | your D. | W. | |
|--------|-----------------------|----------------------------|----------------------------------|----------------------------------|---------|
| | | e stre'gth | | of of of the car | 0. |
| Mark. | Original, section. | Frac- tured section. | Perm'ent gation p of origi | Permaner duction area in j | Specifi |
| М т | 49.037 | 70.000 | 47-95 | 4D. | ***** |
| M 2 | 41.768 | 71.600 | | 48-7 | |
| B B* | 22.385 | 0 | 10.0 | | |
| M 2 | 45-737 | | 51.2 | 47.0 | ***** |
| No 31 | 49-773 | 65.600 | | 24.0 | 8.878 |
| No st | 48.000 | 60.000 | | 20. | |
| G B 2 | 35.820 | | 40.75 | 50. | |
| G B‡ | 29.818 | | 2.91 | | 8.392 |
| B 3 Lt | 33.630 | 39.000 | | 13.4 | |
| M 1 C | 51.450 | 91.600 | | 43.8 | |
| B 2 Ct | | 73 - 450 | 39.6 | 37.6 | |
| B . C+ | 1 44 BBO | ma fine | 48 0 | 0.00 0 1 | 8 De- |

* Full of large tin spots. † Cast in chill moid. ‡ Flaw in the breaking portion.

The guns cast in chill molds were composed of 10 parts of copper to 1 part of tin; the others were made of 9 parts of copper to 1 part of tin. That a great improvement may be made in the density and tenacity of gun bronze by compression has been shown by the experiments of Mr. S. B. Dean in Roston Mass. in 186 and by these of Garacter. by the experiments of Mr. S. B. Dean in Boston, Mass., in 1869, and by those of General Uchatius in Austria in 1873.* The former increased the density of the metal next the bore of the gun from 8.321 to 8.875, and the tenacity from 27.238 to 41.471 pounds per square inch. The latter, by a similar process, obtained the following figures for tenacity:

| | Bronze with 10 per cent. tin Bronze with 8 per cent, tin Bronze with 6 per cent, tin, | | Į | 2 |) | u | n | d | ls | p | e | r | sq. | in |
|---|---|---|---|---|---|---|---|---|-----|---|---|---|-----|-----|
| | Bronze with 10 per cent. tin | ۰ | | | | | | | . , | | | • | .72 | 053 |
| . | Bronze with 8 per cent, tin | | | | 0 | 0 | | | | | | , | -73 | 958 |
| | Bronze with o per cent. tin | | | | | ۰ | | | | | | * | .77 | 050 |

The density of these specimens is not given, but it probably approaches very closely to 8.95. It is believed that the experiments of General Uchatius are still in

It has been shown that the useful alloys, those which contain less than 27.5 per cent. of tin, have strengths which are nearly proportioned to their densities. A systematic investigation remains yet to be made to asinvestigation remains yet to be made to ascertain the various causes which operate to produce the blow-holes, which are the principal cause of the lack of density, and the means which may be taken to prevent the operation of these causes. As before stated, compression of the metal, either in the fluid state or after it has solidified, increases the density, and consequently the strength by density and consequently the strength, by closing the blow-holes and compressing the gas which the blow-holes contain. If the formation of the gas which causes these blow-holes can be prevented, or if it can be removed from the metal while the latter is still in a fluid state, it is evident that the cast metal will be entirely free from them, and a metal of greater density and strength will be obtained which will not need further compression.

compression.

No means has yet been discovered by which this desirable result may be accomplished, but it is not improbable that it may be done by a proper system of treatment of the fluid metal, or by the use of fluxes which shall chemically unite with the gas of the blow-holes and prevent its existence in the gaseous state. The subject offers a fruitful field for experiment, one which it is proposed to explore after concluding the researches in progress on castings of copper-tin, copper-

NEW YORK.

OGDEN & WALLACE, IRON & STEEL, COMMON AND REFINED

BAR IRON. SHEET AND PLATE IRON, HOOP, BAND AND SCROLL IRON, Red and Horse Shoe Iron,

Angle and T Iron, Bwedes and Nerway Iron, Norway Nail Rods Iron of all sizes and shapes made to order.

PIERSON & CO.,

Established 1790.

24 & 26 Broadway, 77 & 79 New St. NEW YORK CITY,

Ulster

All Sizes and Shapes kept in Stock

ABEEL BROTHERS. stablished 1785 by ABEEL & BYVANCE,

Iron Merchants, 190 South Street and 365 Water, N. Y.

ULSTERIRON

A full assortment of all sizes constantly on hand. Refined Iron, Horse-Shoe Iron, Common Iron. Band, Hoop and Scroll fron. Shoot Ire o. Norway Nail Rods. last, Spring and Tire Steel, etc.

A. R. Whitney,

13, 14 & 16 Worth Sts., Our specialty is in Manufacturing Iron Used in the Con-struction of Fire-Proof Buildings,

Plans and estimates furnished, and contracts made for erecting Iron Structures of every description. Books containing cuts of all Iron made sent on ap-plication by mail.

docks containing the state of t BORDEN & LOVELL.

Commission Merchants 70 & 71 West St.,

Wm. Borden, !

New York.

Agents for the sale of

Fall River Iron Co.'s Nails, Bands, Hoops & Rods.

Cumberland Coals.

WILLIAM H. WALLACE & CO., IRON MERCHANTS

Cor. Albany & Washington Sts., NEW YORK CITY.

WM. H. WALLACE.

DANIEL F. COONEY. (Late of and Successor to Jas. H. Holdane & Co.) SS Washington St., N. Y. BOILER PLATES and SHEET IRON,
LAP WELDED BOILER FLUES,
Boller Rivets, Angle & T Iron, Cut Nails & Spikes. Agency for Pottstown Iron Co., Viaduct Iron Work Lebanon Rolling Mills, Pine Iron Works, Laurel Iro Works, The Bergen Rolling Mills, at Jersey City.

Glengarnock and Carnbroe SCOTCH PIG IRON.

For spot delivery and for prompt or forward shipments to New York, Boston, Philadelphia, Baltimore or New Orleans. For sale in lots to suit by

JAMES LEE & CO.,

Sole Agents for the United States, 72 Pine Street, New York.



Aron.

A. B. Warner & Son, 98 William Street, New York IRON MERCHANTS,

28 & 29 West and 52 Washington Sts. BOILER PLATE

Fron.

NEW YORK.

Boller Tubes, Angle, Too & Girder Iron, Boller and Tank Rivets.

Eureka," Pennocks.

"Wawasset," Lukens, Brands of Iron. Also all descriptions of Plate, Sheet, and Gasometer Iron. Special attention to Locomotive Iron. Fire Box Iron a specialty.

ROME MERCHANT IRON MILLS,

Manufacturers of the best grade of Bar Iron, Bands and Fine Hoops. Scrolls, Ovals, Half Ovals, Half Rounds, Hexagon and Horse Shoe Iron. Also from Charcoal Pig a superior quality of Iron branded J. G. All puddled balls re-duced by hammer. Orders may be sent to the Mill or to J. O. CARPENTER, our Agent, at 59 John Street, New York.

MARSHALL LEFFERTS. 90 Beekman St., New York City,

MANUFACTURER AND DEALER.

Galvanized Sheet Iron, 1st and 2d Qualities.

Galvanized Wire, Telegraph and Fence; Galvanized Hoop and Band Iron, Galvanized Rod and Bar Iron Galvanized Nails, Galvanized Chain, Galvanized Iron Pine.

CORRUGATED SHEET IRON For Roofing, &c., Galvanized, Plain or Painted. Best Charcoal, Best Refined and Comm SHEET IRON.

Plate and Tank Iron, C No. 1, C H No. 1, C H No. 1 Flange, Best Flange, Best Flange Fire Box. Circles.

BOILER IRON Stamped and Guaranteed.

All descriptions of Iron Work Galvanized or Tinned to order.

Price list and quotations sent upon application.

JAMES WILLIAMSON & CO., SCOTCH AND AMERICAN

PIG IRON.

No. 69 Wall St., New York.

B. F. JUDSON, Importer of and Dealer in SCOTCH AND AMERICAN

Pig Iron,

Wrought & Cast Scrap Iron, OLD METALS.

457 & 459 Water St., 233 & 235 South St., NEW YORK.

ULSTER IRON WORKS,

90 Broadway, New York.

Borden Mining Company's Tuckerman, Mulligan & Co

O. W. GRAVES & CO., METAL BROKERS,

Cor. Cliff and Beekman Sts., New York. TIN PLATE, PIG TIN, IRON WIRE, SHEET IRON, BRASS and COPPER GOODS, &c.

Passaic Rolling Mill Co., PATERSON, N. J. Iron Bridge Builders

And Manufacturers of TEES.

Merchant Iron. &c., &c. New York Office, 138 Chambers Street.

WATTS COOKE, President. W. O. FAYERWEATHER, Treasurer.

W. J. Carmichael, Iron & Steel Boiler Plate,

Lap Welded Boiler Tubes, &c., &c. 130 & 132 Cedar Street, New York.

Agent for Otis' celebrated Cast Steel Boiler Flates, The
Coatesville Iron Co. and The Laurel Rolling Milis.

NEW YORK

John W. Quincy,

Anthracite & Charcoal Pig Irons,

Wrought Scrap, Cut Nails, Copper, BLOCK TIN. LEAD, SPELTER, ANTIMONY. NICKEL, &c

HARRISON & GILLOON

IRON AND METAL DEALERS, 538, 560, 562 WATER ST., and 302, 304, 306 CHERRY ST., NEW YORK.

have on hand, and offer for sale, the following:
Scotch and American Pig Iron, Wrought, Cast and
Machinery Sorap Iron, Car-Wheels, Axles and Heavy
Wrought Iron; also old Copper, Composition, Brass,
Lead, Pewter, Zinc, &c.

OXFORD IRON CO... (B. G. CLARKE, Receiver,)

SPIKES.

J. S. SCRANTON, Sales Agent, 81, 83 and 85 Washington Street, NEW YORK.

BURDEN'S

Burden Best" Iron

Boiler Rivets.

Burden Iron Works, H. Burden & Sons,

Troy, N. Y.

EGLESTON BROS. & CO.

166 South Street, NEW YORK CITY. BURDEN'S

ULSTER BAR All sizes and shapes in stock.
Also Best Grades of

Am. & Eng. Ref'd Iron, Common Iron, &c W. S. MIDDLETON,

IRON, Railroad, Mining and Steamship Supplies, Machinery, Hardware & Tools,

52 JOHN STREET, NEW YORK Houdlette & Ellis,

MERCHANT BAR IRON Homogeneous Steel and Iron Boiler Plates.

Sheet and Tank Iron. Boiler, Tank and Safe
Rivets.
Best Lap-Welded Iron Boiler Tubes.
Wrought Iron Girder, Deck, and Channel Beams.
Angle, T and Grooved Iron.
Steel and Iron Forgings, Bessemer Steel Cut Nails.
Genuine and Standard Babbitt Metals,
Crescent Brand Journal Bearings.

19 to 31 Hatterymarch Street, Boston Agency of

N. M. HÖGLUND'S SONS & CO., Stockholm. Beams, Channels, Angles, Swedish & Norway Iron of every description. Stock on hand at Boston. New York and Philadelphia. Importation orders GUSTAF LUNDBERG, 38 Kilby st., Boston ALBERT POTTS, Philadelphia Agent, 234 & 236 N. Front Street.

> ROME IRON WORKS, Manufacturers of

Brass, Gilding Metal, Copper and German Silver (In Sheets, Rods, Tubing or Wire),

COPPER & BRASS RIVETS AND BURS.

Rome, New York. Mill, Allegheny City, Pa.; Office, Cor. Water and Market Sts., Pittsburgh, Pa

ANDREW KLOMAN, Pittsburgh, Pa., Manufacturer of

LIGHT STEEL AND IRON RAILS.

AND IRON STRUCTURAL MATERIAL, Kloman Patent Universal Mill-Rolled Eye Bars.

Fron.

PITTSBURGH.

W. D. WOOD & CO.'S



PATENT Planished Sheet Iron

Patented March 14th 1865 : April 8th 1828 : Sept. 9th, 1873; Oct. 6th, 1874; Jan. 11, 1676.

ranteed fully equal in all respects to the IMPORTED RUSSIA IRON. st a much less price.

FOR SALE, by all the principal

METAL DEALERS In the Large cities throughout THE UNITED STATES.

And at their Office, 111 Water Street, PITTSBURGH, PA

The U. S. Iron and Tin Plate Co., OF PITTSBURGH, PA., Manufacture to order

BEST REFINED CHARCOAL AND POLISHED SHEET IRON, Taggers Iron and Bessemer Steel Plate, in quality and size to suit the wants of consumers. Also Best Charcoal Terne Plates in Special Sizes, from 10x17 to 20x30.

Orders solicited. Inquiries promptly answered. Address P. O. Box 24, Pittsburgh, Pa. Works at Demmier, Allegheny Co., Pa.

Eastern Sales Agents:

[212] Market St., Phila.

ELY & WILLIAMS, 114 John St., N. Y. 36 Oliver st., Boston.

C. KANE.

IRON and STEEL. Old Rails, Wheels, Axles, Springs, Scrap, Turnings, &c., PIG IRON, BLOOMS AND BAR IRON. Duquesne Way, near 6th Street, PITTSRURGH

Bonnell, Botsford & Co., Iron, Nails & Spikes.

YOUNGSTOWN, OHIO.

Connellsville Coke.

FRANCIS WISTER,

Fron.

PITTSBURGH.

A. G. HATRY.

Commission Merchant.

Bar, Sheet, Tank, Boiler, Angle, T, and Railroad Iron, And Railroad Equipment.

Nails & Spikes Steel & R. R. Supplies. WINDOW GLASS, GAS PIPE & BORAX. PITTSBURGH, PA.

JUNIATA



Improved Snow Shoe Shapes.

**Mandard Hises.

May-16, 11-16X-16, **May-16, 13-16**X-16, **May-16, **May-16, **May-16, **May-16, **May-16, **May-16, **May-16, **May-16, **May-16, **May-16**X-16**

STEEL TOE CALKS. SHOENBERGER & CO., Pittsburgh.

Portsmouth Iron and Steel Co.. CAYLORD ROLLING MILL CO.,

Siemens-Martin (Open Hearth) STEEL BOILER PLATE,

and Steel Tire. Also, Homogeneous Iron Boiler Plate and Rivets, Merchant Bar, Hoop and Sheet Iron, Wrought Spikes, Fish Bars and Bolts.

PORTSMOUTH, OHIO. J. C. LEWIS, Pres't and Gen'l Sup't. GEO. S. LEWIS, Sec'y and Treas.

BRADLEY, REIS & CO. NEW CASTLE, PA., annfacturers of every description of

PLATE & SHEET IRON

Pittsburgh, Pa.,

Wheeler's Iron & Steel Combination Shafting,

Under license of the Combination Trust Co., Philadelphia.

This Shafting is superior to any now on the market, and the attention of machinists is particularly called to it and a trial order solicited. Prices furnished on application.

LEECHBURG IRON WORKS. KIRKPATRICK, BEALE & CO.

FINE SHEET IRONS. TIN AND TERNE PLATES, made

OFFICE, No. 116 Water St., Pittsburgh, Pa. Est. in 1840 by
JOHN ROACH. ÆTNA IRON CO., WM. J. FRYER, Jr
Manager.

ARCHITECTURAL IRON WORK FOR BUILDINGS. 86 to 108 Goerck Street, New York.

WROUGHT IRON. s. Stairs. Ploofs. ters and Doors, with Fidles, Truss Pla Boits, for Wood and Shutters. Anchors, Clamps a for mason work. Framing, for Slate. Framing, for Slate.

Rolling Shutters.
Window Sashes and
Frames.
Fire-Froof Ceilings and
Partitions, Lathing.
Sky-Lights, Floor-Lights
Book-Safe Doors.
Fire-Escape Baiconies and
Ladders.
Rolled and Riveted Beams
and Girders.

Anchors, Clamps and Ties
framing, for Slate.
Framing, for Sla

CAST IRON

Shovels, Riddles, Brushes, &c.

WHITEHEAD BROS. AMERICAN FACING CO.

'New York.

Rail Genera

MANUFACTURERS"

AME

Fron.

PHILADE LPHIA.

Siemens' Regenerative

RICHMOND & POTTS, 119 8. Fourth St., PHILADELPHIA, PA.

Fron. PHILADELPHIA.

HENRY LEVIS & CO., Manufacturers' Agents

For Iron and Steel Rails, Car Wheels, Boiler and Sheet Iron and General Railway Equipments.
Old Rails, Axles, and Wheels bought and sold.

234 S. 4th St., Philadelphia.

RAILS.

have now an annual capacity of

100,000 Tons of Iron and Steel Rails, Splice Bars, &c.

CAMBRIA IRON COMPANY,

No. 218 South 4th Street, Philadelphia.

Or at the Works, JOHNSTOWN, PA. Or LENOX SMITH, New York Selling Agent, 46 Pine St., N. Y.

PHŒNIX IRON 410 Walnut Street, PHILADELPHIA.

CURVED, STRAIGHT AND HIPPED Wrought Iron Roof Trusses, Beams, Girders & Joists.

and all kinds of Iron Framing used in the construction of Iron Proof Buildings.

DECK BEAMS, CHANNEL, ANGLE AND T BARS PATENT WROUGHT IRON COLUMNS, WELDLESS EYE BARS.

For Top and Bottom Chords of Bridges.

Railroad Iron, Street Rails, Rail Joints and Wrought Iron Chairs.

REFINED BAR, SHAFTING, and every variety of SHAPE IRON made to Order. Plans and Specifications furnished. Address, DAVID REEVES, President.

ALAN WOOD & CO..

Patent Planished, Galvanized, Common, Best Refined, Cleaned and Charcoal Bloom

PLATE & SHEET IRON. No. 519 Arch St., Philadelphia, Pa.

Orders solicited especially for Corrugated, Gasholder, Pan and Elbow, Water Pipe, Smoke Stack, Last, Stamping, Ferrule, Locomotive Headlight and Jacket Iron.

JAS. ROWLAND CO.,

Kensington Iron, Steel & Nail Works.

920 North Delaware Ave., - - PHILADELPHIA,

Manufacturers of the

Anvil Brand Refined Merchant Bar Iron.

Also, the James Rowland & Co. Kensington Nails, cut from their tefined Anvil stock. Also, Plow and Cultivator Steel, Ro Squares, Flats, Bands and Hoop Iron. Correspondence with Dealers solicited.

PENCOYD IRON WORKS.

A. & P. ROBERTS & CO.,

CAR AXLES.

BAR, ANGLE, TEE AND CHANNEL IRON.

265 S. Fourth St., Philadelphia. Agents for the sale of Glamorgan Pig Iron.

FOUNDRY FACINGS.





GERMAN LEAD. AMERICAN LEAD, GRAPHITE,

ANTHRACITE, CHARCOAL MINERAL,

SHOVELS. BRUSHES. CRUCIBLES,

MACHINERY SAND. RHASS CHANDELIEB STOVE PLATE "

OLO N

5

PLUMBAGO. J. W. PAXSON & CO. | 514, 516 and 518 Beach St., Philadelphia, Pa.

ALLENTOWN ROLLING MILL COMPANY.

Rails, Bars, Axles, Shafting, Fish Bars (Plain and Angle), Spikes, Rivets, Bolts and Nuts, &c. Bridges and Turn Tables. General Office, 303 Walnut St., Philadelphia

JAMES C. BOOTH.

THOMAS H. GARRETT.

ANDREW A. BLAIR

BOOTH, CARRETT & BLAIR, Analytical and Consulting Chemists,

919 and 921 Chant St. (10th St. above Chestnut St.), PHILADELPHIA, PA. Established in 1836.

Analyses of Ores, Waters, Metals and Alloys of all kinds. A special department for the ANALYSIS OF IRON AND STEEL,

fitted with all the apparatus and appliances for the rapid and accurate analysis of Iron, Steel, Iron Ores, Slags, Limestones, Coals, Clays, Fire Sands, &c. All analyses made by the members of the firm Ores, Slags, Limestones, Price lists on application.

Aron.

Edward J. Etting, IRON BROKER AND COMMISSION MERCHANT 230 S. Third St., Philadelphia, Pa.

Pig, Bar and Railroad Iron. Agent for the

Allentown Iron Co. and the Coleraine Furnaces. DELAWARE AVENUE ABOVE CALLOWHILL STREET, inected by track with r road.

Cash advances made on Iron.

Chester Iron Company's BESSEMER ORES.

Blue Ore, Red (Foundry) Ore, and a limited amount of the celebrated Brotherton (Foundry) Ore. Prices will be given on application to J. WESLEY PULLMAN

407 Walnut St., Philadelphia. T. HORACE BROWN.

D. W. R. READ & CO., General Commission Merchants.

ORES, METALS, &c.

Spanish, Algerian and Domestic Ores or Iron, Manganese, &c. 205% Walnut St., PHILADELPHIA.

J. J. MOHR. Iron Commission Merchant.

No. 430 Walnut Street, Philadelphia.

Sole Agent for the Sheridan and Leesport Furnaces

J. W. HOFFMAN & CO., Iron Merchants & Railway Equipments. 208 South Fourth St., Philadelphia.

Sole agents Glasgow Iron Co. and Pine Iron Work manufacturers of Muck Bar and all grades of Plat Iron. Celebrated "Glasgow" and "Pine" brands for fire boxes and difficult flanging. Pig and Bar Iron, Rails and all shapes in Iron. Quotation given on Bridge and Building Specifications.



LOCOMOTIVE AND CAR WHEEL TIRES, Manufactured from the celebrated OTIS STEEL. BRAND

STANDARD. uality and efficiency fully guaranteed. Prices as ow as any of the same quality. We manufacture leavy and Light Forgings, Driving and Car Axies, rank Pins, Piston Rods, &c.

Works at Lewistown, Pa.
Office, 220 S. 4th St., Philadelphia, Pa. CRAY ENAMEL WARE.

W. T. WELLS, Sole Agent for FOXELL, JONES & CO., is now prepared to supply the wholesale trade only with Plain, Ground, Enameled and Tinned

HOLLOW WARE.

CORRUGATED AND CRIMPED IRON ROOFING & SIDING,

Iron Buildings, Roofs Shutters, Deors, Cornices, Skylights, Bridgen, &c. MOSELEY IRON BRIDGE AND ROOF CO.

5 Dev Street, New York. PHOSPHOR-BRONZE Bearings. Pump Rods

and Spring Wire . Phosphor- Bronze.

Apply to The Phosphor-Bronze Smelting Co., Limited, n Avenue, Philadelphia.

J. F. BAILEY & CO., 216 South 4th St., Philadelphia. 52 Wall St., (Room 8) New York.

Selling Agents ATKINS BRO'S-BEAMS, CHANNELS, RAILS, &c.

A. & P. Roberts & Co.-Car Axles, Plates, Channels, Tee, Angle and Bar Iron.

Philadelphia Agents Central Iron Works, Harrisburg, Pa.-Boiler, Ship and Bridge Plates. WILLIAM McILVAIN & SONS-Boiler, Ship and Bridge Plates. BERWICK R. M. BARS AND SHAPE IRON. signments of Old Material and sales promptly made.

Established 1887.

Incorporated 1876.

WATERBURY MFG.

WATERBURY, CONN.

Brass and Iron Jack Chains, Silvered, Nickeled and Gilt Chains, Chisel Handle Ferrules, Brass Machine Screws,

Brass and Plated Safety Chains, Bath and Basin Chains, Brass Nuts and Washers, Special Brass Work.

The History of Tin Mining in Bohemia and Saxony.

Fron.

JUSTICE COX, JR. & CO.,

and Keystone

Foundry & Forge Pig Iron.

CATASAUQUA MFG. CO.'S

Bar, Angle, Skelp and Sheet Iron. RAILROAD CAR AXLES.

NEW AND OLD RAILS.

No. 333 Walnut St., Philadelphia.

PETER WRIGHT & SONS

59 Broadway, New York,

44 Second Street, Baltimore,

307 Walnut Street, Philadelphia,

Importers of

German and English

Pig, Scrap,

NEW AND OLD RAILS.

And Iron Ore.

J. O. RICHARDSON

IRON COMMISSION MERCHANT

No. 232 Dock St., Philadelphia. Pig Iron, Railroad Iron and

Iron Ores.

Sole Agent for the MONOCACY FURNACE CO.

DEALER IN MOSELEM, ROCKHILL, WARWICK.

And other Favorite Brands

SILVER GREY IRON A SPECIALTY.

L. & R. WISTER,

Brokers and Commission Mer

chants in Iron, Steel, &c.

A. PURVES & SON,

Corner South & Penn Streets, Phila...

crap Iron & Metals, Machinery, Tools, Shafting & Pulleys, Steam Engines, Pumps & Hoilers, Copper, Brass, Tin, Babbit Metals, Foundry

Facings. Best Quality Ingot Brass.

The Iron-Masters'

Exclusively for the

Analysis of Ores of Iron, Pig and Manufactured Iron, Steels, Limestone, Clays, Slags and Coal for Practical

Metallurgical Purposes

No. 339 Walnut St., Philadelphia.

This laboratory was established in 1866, at the in stance of a number of practical Iron Masters, expressly to afford prompt and reliable information upon the chemical composition of the substances above mentioned, for smelting and refining purpeses. The object being to make it at once a convenient, practically useful, and comparatively inexpensive adjunct to the Furnace, Forge and Rolling Mill.

CHARGES TO IRON WORKS

currence.

For those of unusual occurrence or difficult
to determine, the charge must necessarily
depend upon circumstances.

For determining the per cent. of Sulphur or
Phosphorus in Iron or Steel.

For each additional constituent of usual ec-

currence. 5.00
For the per cent. of Carbonate of Lime, and insoluble Silicious Matter in a Limestone. 10.00
or each additional constituent. 2.00
or the per cent. of Water, Volatile Combustible Matter, fixed Carbon, and Ash in Coal. 12.50

For determining the constituents of a Clay, Slag, Coke, or of an Ash in Coal the charges will correspond with those for the constituents of an ore.

For a written opinion or letter of instruction the charge must necessarily depend upon circum-

P. W. GALLAUDET.

Banker and Note Broker,

Nos. 3 and 5 Wall Street,

NEW YORK.

nces. rinted instructions for obtaining proper average uples for analysis furnished upon application.

J. BLODGET BRITTON.

CHARLES K. BARNS.

We are indebted to Dr. Ed. Reyer, an minent Austrian authority, for the follow-Chickies, St. Charles, Montgomery ing data on the history of tin mining in Boemia and Saxory, which is of interest as showing the comparatively rapid changes to which the working of tin deposits is subject. At the times of the Phoenecians and the Romans, Spain and England were fam-ous as producers of tin, Cadiz in Spain, and later Marseilles being the main ports of shipment from which tin went to Italy and the East, where it probably competed with Indian tin. England kept its rank as an important producer during the first centuries of the Middle Ages, while Spain's output became of little significance The pure stream tin of Devon was carried across France to Marseilles Later, how-ever, Bruges, in the Netherlands, assumed

ever, Bruges, in the Netherlands, assumed control of the tin market, and it was there that the merchants of Italy, France and Germany assembled every year in order to divide the supply of metal.

Affairs remained in this condition until the year 1200. At this time rich deposits were discovered in Graupen, in the Erzgebirge Mountains, and soon after those at Schoenfeld, in north-western Bohemia, were opened. In 1241 the rich Bohemian ores attracted much attention in England. Cologne tracted much attention in England. Cologne then became a second great center besides Bruges. The mines of Ehrenfriedersdorf and Geyer, in Saxony, were then opened, and although those at the former place were rich, we have no record of the output of this or the other mines. It is only since the middle of the 15th century that reports of middle of the 15th century that reports of any value are extant. About this time (1458) Altenberg and Zinnwald commenced producing, the former turning out from 300 to 400 tons of tin per annum during the first decades. At the end of this centur, Eibistock is first mentioned also, although it is probable that at this and other points mining reached further back. The working of the ores was much improved during the begin-ning of the 16th century. The ores, which were obtained either by building huge which were obtained either by building huge fires at the face of the rock, or by working with the pick and gad, were until then broken with hammers and ground in handmills. During the period mentioned stamp mills were introduced, first at Altenberg, then at Schlackenwald and other places. The concentrated ore obtained by working in sluices was calcined and smelted in little blast furnaces with charges as the law. blast furnaces, with charcoal as fuel. Impure metal was liquated. While the washings of Schoenfeld grew poor, the mines of the neighboring small city of Schlackenwald were rapidly pushed to considerable importance by moneyed men from Nuremberg and Augsburg, 500 to 1000 tons of tin being made annually by the three villages, Schlack-enwald, Schoenfeld and Lauterbach. As an instance of the enterprise shown in these days, it may be stated that a ditch more than thirty miles long carried water to the stamp-mills. The number of mines in operation during this time was increased by the opening of Gottesgab, Platten and Heng-

Tinning sheet iron was adopted in Bohemia and Saxony in the beginning of the 17th century, and the process was carried to England in 1670, whence it was introduced later into France. A little earlier, in 1630, Drebbel, a German, taught the use of the selfs in denies.

the use of tin salts in dyeing.

Almost all the mines were closed during the Thirty Year's War, and Bohemia and Saxony together did not produce more than 100 tons per annum. The persecution of Protestants in Bohemia drove many miners to Saxony, and notably to Zinnwald and Johanngeorgienstadt. The richer mines of both countries, it is true, recovered dur-ing the beginning of the 18th century, and ening the beginning of the 18th century, and enjoyed a second period of prosperity, although the methods of mining and dressing were still crude, and the smelting as practiced then involved a very large consumption of fuel and great losses. These drawbacks, and the low percentage of metal in the ores, caused tin mining to decline, and the method introduced in 1835 at Altenberg to treat the fine ore with hydrochloric acid or that used since ore with hydrochloric acid, or that used since 1845 at Schlackenwald, to calcine with common salt, did not succeed in stopping the decline. Australian competition sealed the fate of Schlackenwald, Graupen and Zinnwald. and even Altenberg is working only at an annual loss. Hengstererben, it is true, has, on the other hand, been reopened recently by an English company. The percentage of metal in the ores is not higher than onethird of one per cent., taking the average of 300 years, and one-fifth of one per cent. is considered acceptable for stock-works as well as for lodes. Very few of the latter only yield from 1 to 3 per cent. of metal.

A Large Gas-Holder.-Messrs. Ashmore

and White, of Stockton-on-Tees, England, have just secured a contract for the erection HARDWARE, METAL, IRON RUBBER, SHOE, PAPER AND PAPER-HANGINGS, LUMBER, COAL AND RAILROAD PAPER WANTED. ADVANCES MADE ON BUSINESSS PAPER AND OTHER SECURITIES. of what will be the largest gas-holder in the world. It has been designed by Mr. George Livesey, for the South Metropolitan Gas Company. It is of the kind known as treble lift. The inner vessel is 208 feet diameter lift. The inner vessel is 203 feet diameter by 53 feet 6 inches deep in the sides; the middle vessel is 211 feet diameter by 53 feet 3 inches deep; and the outer vessel 214 feet diameter by 53 feet deep. It will thus be seen that when full, the top curb of this holder will be approximately 160 feet block and the tank water-line. The feet high above the tank water-line. The cubic capacity of the vessel will be 5,000,000 feet. The holder when at work will be refeet. The holder when at work will be retained in its position by means of 24 wrought iron stanchions, constructed of plate, bar and angle iron, tapering from 28 feet wide at the base to 22 feet at the top, and 165 feet high, or thereabouts. These are connected laterally by a series of strong horizontal struts or girders of + section, and by diagonal braces of flat iron, increasing in strength from the top downward. What a contrast, says the Engineer, we have here between modern gas engineering and the between modern gas engineering and the time, within the memory of many men. when a London gas company kept a few thousand feet stored in balloons for customers; while the Chartered Gas pany was once so hard up for a gas-holder, that it purchased a second-hand brewer's Correspondence invited. | vat and used it for the purpose,

MCNEALS & ARCHER.

BURLINGTON, N. J.



FOR WATER AND GAS.

ESTABLISHED IN 1848.

CO., SINGER, NIMICK

PITTSBURGH, PA. MANUFACTURERS OF ALL KINDS OF

HAMMERED AND ROLLED

Warranted Equal to any Produced.

BEST REFINED TOOL CAST STEEL

For Edge and Turning Tools, Taps, Dies, Drills, Punches, Shear-Knives, Cold-Chisels and Machinists' Tools generally.

SAW PLATES For Circular, Mulay, Mill, Gang, Drag, Pit and Cross-Cut Saws.

Sheet Steel

For Springs, Billet Web and Hand Saws, Shovels, Cotton Gin Saws,

Stamping Cold, &c., &c. SIEMENS-MARTIN (Open-Hearth) PLATE STEEL

For Boilers, Fire-Boxes, Smoke Stacks, Tanks, &c.

All our Plate and Sheet Steel being rolled by a Patented Improvement is unequaled for surface exactness of gauge. ROUND MACHINERY CAST STEEL

For Shafting, Spindles, Rollers, &c., &c.

File, Fork, Hoe, Rake, R. B. Frog, Toe-Calk, Sleigh-Shoe and Tire Steel, &c.;
Cast and German Spring and Plow Steel.

"Iron Center" Cast Plow Steel,
"Soft Steel Center" Cast Plow Steel,
"Solid Soft Center" Cast Plow Steel.
Steel Forgings made to order.

resented at 59 BEEKMAN ST., NEW YORK, by HOGAN & BURROWS, Gen'l Agents for Eastern and New England States.

MIDVALE STEEL WORKS.

CRUCIBLE AND OPEN HEARTH STEEL.

TIRES AND AXLES

OF EVERY DESCRIPTION.



TOOL, MACHINERY AND SPRING STEEL CASTINGS AND FORGINGS.

Nicetown, Philadelphia, Pa

12 N. 5th St., Philadelphia, Ph.

WAREHOUSE:

ESTABLISHED 1847. A. WHITNEY & SONS, PHILADELPHIA,

CHILLED RAILROAD WHEELS

For every kind of service, including Street, Mine and Lumber Tramways. Wheels furnished in rough

PENNSYLVANIA STEEL COMPANY,

Steel Rails, Frogs, Crossings & Switches. Forgings for Piston Rods, Guide Bars, Wrist Pins and Machinery Purposes.

Works at Baldwin Station, Pennsylvania Railroad, near Harrisburg, Pa.
Address all orders to PENNSYLVANIA STEEL COMPANY, 208 South Fourth Street, Philadelphia.

1 2 2

bored or on axles. Chilled castings made to order.

BALDWIN LOCOMOTIVE WORKS. BURNHAM, PARRY, WILLIAMS & CO., Proprietors, Philadelphia, Pan. U. S. A., Manufacturers of

LOCOMOTIVE ENGINES of every Description,

Catalogues, photographs and estimates furnished on application of customers. NOISELESS STEAM MOTORS, For city and suburban Railways.

These manhines are searly nesselss in operation; show no smoke with the use of anthracite coal or coke as fuel, and show in a steam whatever under ordinary conditions of service. They can be run at two ar three times the speed of horse cars and draw additional cars. Circulars with full particulars supplied.

HROME WAREHOUSE.

Address JOHN W. QUINCY, Manager, 98 William St., N. Y.

This Steel is made from Chromium and Iron, and is remarkable for Strongth. Burability and Uniformity. Send for Circular, where the proof will show it does 25 to 75 per cent. more than other cast steel. It is adapted to all kinds of work where cast steel is used. Chrome Steel Castings from 25 to 500 lbs. to order.

Southern Advertisements.

ROANE IRON COMPANY,

Manufacturers of and Dealers in

Pig and Railroad Iron. CHATTANOOGA, - - - -TENN.

T. J. BROWN.

Rockwood, Tenn.

Miner and Contractor of Fossiliferous Ores.

S. B. LOWE. Pig Iron, Storage & Commission.

A superior article delivered at low figures at any furnace within the district or at any point on the Ohio River. Refer to Roane Iron Co., Chattanooga.

Dealer in Charcoal and Coke Pig Iron for Foundry, Forge or Car Wheel purposes.

Chattanooga, Tenn.

MADE A SPECIALTY BY

TAYLOR & BOGGIS. 65 to 73 Central Way,

CLEVELAND, OHIO.

Having extensive machine shop connected with foundry, we are enabled to fit up all kinds of light Hardware or patented articles. Correspondence solicited.

IRON AND STEEL DROP FORGINGS

All shapes, small and large, including Gun, Pistol, Wrench Bars, &c. Also, Die Sinking. Manufacturers also of Bricklayers', Moulders' and Plasterers' Tools, Saddlers' Round and Head Knives.

WILLIAM ROSE & BROS.,

36th & Filbert Sts., West Philadelphia.

RICHARD P. PIM, Wilmington, Delaware,

IMPROVED PROCESS,
LIGHT GRAY IRON CASTINGS.
Castings of Best Quality made to order at short notice.

BRITTON IRON AND STEEL CO., BOILER, TANK AND BRIDGE PLATES.

Galvanized and Black Sheet Iron. CLEVELAND, OHIO. Foot of Wasson Street,



M. KING & CO.,

WATERFORD, N. Y.,

Manufacturers of the BUTTONS PATENT

CUTTER AND PLIER COMBINED."

Specially Adapted for Use on Wire Fence. Also Manufacturers of

Blacksmith and Machinists' Stocks and Dies, Plug and Taper Taps, Hand, Nut and Screw Taps, Pipe Taps and Reamers.

Price List on application.

Established by Daniel B. Kirg, 1899.



TACKLE BLOCKS.

Rope and Iron Strap of all kinds. Lig-

STORE SHIPS

435 Arch St., Philadelphia. Owners and Manufacturers of the

Celebrated Patent Cas Heat

ing Smoothing Iron.

Can be heated on any ordinary gas burner in three minutes. People who have to board cannot get along without them. Also manufacturers of the

Improved Troy Polishing

Iron 4

for laundry purposes. For sale by Hardware and Housefurnishing dealers. Liberal discount to the trade.





m the country



Superior to any other Light for Mining

STANDARD GIRARD WRENCH.

WARRANTED.



IT HAS NO SUPERIOR.

GUARANIEED EVERY RESPECT.

Wrought Bar, Head and Screw.

Owing to the increased demand

for these justly Popular Wrenches, we are now manu

facturing more than

any other establish-

ment in the world. Our Wrench having been imitated by other manufactur ers, we have adopted the above Trade Mark, and will hereafter stamp all our

SEND FOR TERMS and PRICES.

goods.

GIRARD WRENCH MFG. CO., Girard, Pa. J. H. Ricketson, Wm. Holmes

PITTSBURGH FOUNDRY.

GARRISON & CO.,

Chilled Sand and Patent Homogeneous Steel

Both Solid and Hollow,

Ore and Clay Pulverisers, Rotary Squeezers, Haskin's Patent Double Spiral Pinions, and Rolling Mill Castings of every description.

OFFICE, 6 Wood St., - - PITTSBURGH. Bridgewater Iron Co., Bridgewater, Mass., Manufacturers of SEAMLESS DRAWN COPPER AND BRASS TUBES, TACK PLATES.

Forgings of every description. Bridgewater Iron Co.'s HORSE NAILS. PRICE LIST.

Nos.... 5 6 7 8 9 10 Per lb. 26¢ 23¢ 21¢ 20¢ 19¢ 18¢ Liberal discounts to the Trade.

73 Pearl Street, New York.

28 Broad Street, Boston.

R. COOK & SONS,

Carriage & Wagon AXLES, WINSTED, CONN. ENTABLISHED 1830.

Coal.

J. G. FELL, Phila. A. PARDEE, Hazelton, Pa.

A. PARDEE & CO.

303 Walnut St.,

PINAL DELPHIA.

No. III Broadway, New York. MINERS AND SHIPPERS OF

BLACK VARNISHES

ASPHALTUM and all kinds

Lehigh Coals. The following superior and well-known Lehigh

Coals are mined by ourselves and firms connected

A. Pardee & Co. Sugar Loaf.

Pardee, Bro. & Co LATTIMER. Calvin Pardee & Co. HOLLYWOOD.

Pardee, Sons & Co. Mt. PLEASANT. THE HOBOKEN COAL CO.,

SCRANTON, LEHIGH and other COALS. numvitæ Wood for Ten-Pin Balls.

Purposes. Manufactured by

Wm. H. McMillan & Bro.,

Office, 113 South Street, New Pork.

JAMES BOYD'S SON,

Factory, 39 to 40 Ponn St., Breeklyn, E. D. Nos. 10 & 12 Franklin St., New York.

OVER 800 DIFFERENT STYLES PUMPS, STEAM PUMPS, ROTARY PUMPS, CENTRIFUGAL PUMPS, PISTON PUMPS,

for Tanners, Paper Mills, Fire Purposes, suitable for all situations imaginable.



Also, HAND FIRE ENGINES. RUMSEY & CO.,

Seneca Falls, N. Y., U. S. A.

RANCH HOUSES: 93 Liberty St., New York, and ale St., Chicago, Ill.

M. RUMBEY & CO., Agents, SI: North Main Street, outs, No. MARCUS C. HAWLEY & CO., San Francada Secretary Co., San Franci

d by

etur

ere-

our

CES

Pa.

ent

Roll-

JRGH.

IS,

L. Phila.

rk.

Lehigh

TON, ERRY, LOAF,

TIMER.

YWOOD. EASANT.

COALS.

BLACK

Gilbert & Bennett Mfg. Co., GEORGETOWN, CONN.,

IRON WIRE, SIEVES AND WIRE CLOTH.

Power Loom Painted Screen Wire Cloth, GILBERT'S RIVAL ASH SIEVE, Galvanized Twist Wire Netting, THE UNION METALLIC CLOTHES LINE WIRE.

49 Cliff St., New York



247 & 249 Pearl St., DED DE LE COMPANIE DE

JOHN STARR, Hardware & Metal Broker,

> MANUFACTURERS' AGENT, Halifax, Nova Scotia,

Representing in the Dominion of Canada seve: al American Manufacturers, is ready to accept further Agencies. Satisfactory references.

AXLES

All kinds Wagon & Carriage Axles
Ring that will effect use the loss from rooting. No sharp points in the nose. Manufactured by the LAMBERTVILLE IRON WORKS,

The Largest Pump Works in the World. W. & B. DOUGLAS. Middletown, Conn., PUMPS, HYDRAULIC RAMS,

GARDEN ENGINES. Yard Hydrants, Street Washers.

Hydraulic Machines

WORLD'S EXPOSITION, Paris, France, 1878, being the highest award on Pumps, &c.; also the highest medals at Paris, 1867, Vienna, 1873, and Philadelphia, 1876, accompanied by the Report of Judges.

sent when requested.

85 and 87 John St., N. Y.,

197 Lake St., CHICACO, III.



UNION MANUFACTURING COMPANY



Union Spiral Spring Hinges. Fine Castings a Specialty. NEW BRITAIN, CONN.

Warehouses, Chambers St., New York, Kilby St., Boston (Pumps), eaton & Denckla, 507 Com-nerce St., Phila. (Butts.)



Pat. Brads, Finishing Nails, Clout Nails, Trunk Nails, Hungarian Nails, Cigar-Box Nails, Basket Nails, 2d and 3d Fine Nails. Carpet Tacks, Upholsterers' Tacks, Gimp and Lace Tacks, Brush Tacks, Copper and Brass Tacks, BRASS AND IRON ESCUTCHEON PINS, &c., &c., MANUFACTURED BY

DUNBAR, HOBART & WHIDDEN, So. Abington Station, Mass.

New York Salesroom, 39 Warren St. Goods made to order from sample.

Particular attention given to orders for EXPORT.

HOC RINGER RINGS and HOLDER.

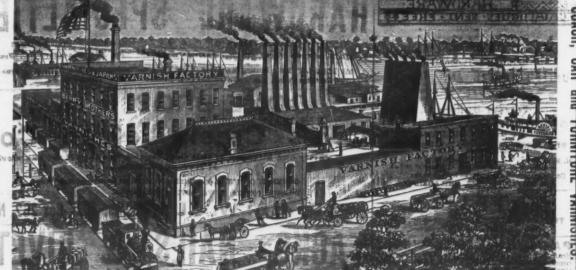


HOG AND PIG RINGER and RINGS.

CHAMBERS, BERING & QUINLAN, Exclusive Manufacturers, Decatur, Ill.

ESTABLISHED 1858.

BLACK and BROWN BAKING JAPANS.



ASPHALTUM and Varnish Manufacturers, Detroit, Mich.

CHICAGO BRANCH, 2:6 Lake st.; ST. LOUIS, 203 & 305 North Third st., CINCINNATI, 72 Main st.; ROCHESTER, 1:6 Front st.; BALTIMORE, 100 West Lumbard st.; PHILADELPHIA, 35 North Front st.; BOSTON, 14: Milk st.; NEW YORK, 279 Broadway.

Bronzing and Lacquering Metals.

The general plan in use in England is thus in 1879.

There is only one drawback upon this cheerful outlook for the Southern pig iron the control of the cont The general plan in use in England is thus described: The process of dipping, bronzing and lacquering is simple enough in itself; but, like all other things, it requires a little practice and care. There is a little difference in getting up old and new work. I shall therefore divide it into sections—First, old, work, viz., work that has been lacquered before; second, new work. In the first place, where work has been lacquered or bronzed before, the first thing to do is to remove the old lacquer. If this is not done, the dipping acid will have no effect; and the best way to do is to boil the article for half an hour in strong soda water, or any the best way to do is to bolt the article for half an hour in strong soda water, or any other strong alkali. When the old lacquer is all removed, it will present a dull grayish-black appearance. Then immerse the arti-cle for about one hour in a solution of one black appearance. Then immerse the article for about one hour in a solution of one part oil of vitriol and five parts water. Soft water must be used, either rain or river; the ordinary tap-water from the companies; the ordinary tap-water from the companies; mains will not do. Next prepare for the dipping proper, viz., get some strong nitric acid, sufficient to well immerse the article to be dipped, and bear in mind both these acids must be kept in earthenware pans or small tanks; also have a box full of boxwood sawdust, perfectly dry and clean. None other will do. Having all ready, take the article tanks; also have a box full of boxwood saw-dust, perfectly dry and clean. None other will do. Having all ready, take the article from the pickle of vitriol with a pair of brass pliers, or anything of brass or copper to answer the same purpose. Give it a swill in the soft water to free it from the acid; then dip the article at office into the nitric acid. A sort of thick green from will form acid. A sort of thick green foam will form on it. When you see this, remove it at once, give it a good swill in the soft water reserved for this purpose, and at once plunge into the boxwood sawdust, and work well about by rubbing it well with the saw-dust, taking care not to touch it with the hand. When quite dry, take the article from the sawdust and proceed to lacquer it; and the lest way to do this—that is, for small articles—is to lay them on the top of

The Southern Iron Trade

Col. S. B. Lowe, dealer in metals and Southern manager for The Iron Age, furnishes the following statistics of the iron business of Chattanooga for the year ended interest: November 1, 1879:

Pig iron. Iron rails Merchant bar iron... Nails. Railroad spikes. Railroad track bolts. tons. 7,550 kegs. 57,300 kegs. 2,310 kegs. 905 tons, 16,306

new plants get into operation this year, the production of pig in the Southern

short and prices rising. A comparative statement of the output of Sewanee mines for November, 1878, and the corresponding month of 1879, shows that in November, 1879, the product was 241,184 bushels coal

The advance in the price of coke is indicated by the statement of the manager of Sewanee Coal and Coke Works here. He reports that the company have closed a contract with the Missouri Furnace Company for 2400 bushels of coke daily at 5½ cents per bushel. The coke to be delivered at Cowan, 87 miles south of Nashville on the N. and C. road. The same company is now filling an old contract with South Pittaburg at 4 cents per bushel, delivered at the fur-

Protection Against Lightning.

In an interesting article in the Building World it is stated that there is in Carinthia small articles—is to lay them on the top of a stove, or anywhere where they will get hot enough to take the lacquer. The article must not be too hot, or it will blister the lacquer and spoil the work. When hot enough—and a very little practice will tell you how to know this—paint the article over evenly and carefully with the lacquer. It will dry at once, and if there are any parts to be relieved by burnished portions, this may be done by using a smooth steel burnisher, using a little small beer to wet the burnisher and keep it from cutting the brass. The burnisher must be kept bright and clean by occasionally rubbing it with a little fine emery cloth. If it (the burnishing) is properly done, it will present the part is burnished, lacquer as before. In large work, such as cornice poles, &c., it impossible to get them hot enough by a stove. They are therefore heated either by restricts and interesting article in the Building world it is stated that there is in Carinthia a church which was so often struck by lightning that at length it became the custom to close it during the summer months. This continued until, in 1778, the church was rebuilt and provided with a suitable lightning conductor, since which time the building has been struck but few times and has suffered but little damage. It was at one time held that the best way to protect a building was to repel the lightning from it, and as glass is one of the best non-conductors, a thick glass ball was placed upon the top of the spire of Christ Church, Doncaster, England, but in 1836 lightning struck the church, shattering the ball and seriously damaging the spire. The carrying out of a theory which, in this case, proved so disastrous, has had a happier result in the Houses of Parliament, London, where Sir W. Snow Harris, who was charged with protecting the building, carried the flat copimpossible to get them hot enough by a stove. They are therefore heated either by passing a jet of steam through them or by filling with boiling water. The best way, where it can be done, is to pass a jet of steam through the tube or article to be lacquered. A very good boiler is used for this purpose. The ends of the tube are closed up, leaving a small hole at one end to allow the steam to escape from. When hot enough, go quickly over it with the lacquer, using a fine camel-hair brush for the purpose. In lacquering the article, if a very some 200 feet high, is crowned by a bronze is the best to use; but if a deep color is wanted take a portion of the pale lacquer and add to it about as much dragon's blood and turmeric powder as will cover a shilling and add to it about as much dragon's blood and turmeric powder as will cover a shilling (this is enough for a quarter of a pint), and put it in a warm place for a day or two, shaking it occasionally. It will then be fit for use. Any degree of color may be obtained by altering the quantity—more turmeric if wanted lighter, and vice versa. I do not give any recipe for making lacquer, because it can be bought much cheaper and of a better quality than any amateur can make it. damp earth or running water, but not to a stone-lined well or cistern.

Wooden Money.

In view of the recent discussion on the money question, the following from the Lon-don Journal of Applied Science will be of

Advocates of inconvertible paper currency may perhaps derive some satisfac-7,389 tion and encouragement from the fact that 1,482 from the reign of Henry I down to the es7,590 tablishment of the Bank of England, the legal tender money of England was fabricated out of wood. This instrument was called an exchange tally, and by virtue of it the holder was entitled to receive from the crown the value inscribed thereon. It really consisted of one-half of a four-sided rod or cke used in the manufacture of fron bush, \$50.015 Pig fron shipped direct from this city, tons. \$7,350 Pig fron shipped direct from this city, tons. \$7,350 Pig fron shipped direct from this city, tons. \$7,350 Pig fron shipped direct from this city, tons. \$7,350 Pig fron shipped direct from this city, tons. \$7,350 Pig fron shipped direct from this city, tons. \$7,350 Pig fron shipped direct from the since from the since from the since from the since the improved demand set in, which has sometimed in the district of which Chattanoogal sit of the advantage of those who could read, the sum was written in ink on two opposite sides of the staff, and, finally, was hardened in the sometime from different quarters. There are now ready to be blown in the sometime from the part of the sometime from the part of the sometime from the part of the sometime from the person for whose service it was intended; the other half, called the counter tally, was laid up for safe keepings mutil He corresponding tall the sound of the

AUBURN FILE WORKS, Superior Hand-Cut

MADE FROM IMPORTED STEEL. EVERY FILE WARRANTED. **FULLER BROS., Sole Agents,**

89 Chambers and 71 Reade Streets, N. Y



McCAFFREY & BRO.,

PENNSYLVANIA FILE WORKS,

Philadelphia, Pa., U. S.



Manufacture and keep in stock a full line of FILES and HASPS only, for which we claim is advantages over the ordinary goods, and ask domestic and foreign buyers to allow us to comor their trade. Superiority acknowledged wherever used, sold or exhibited.

MANUFACTURING COMPANY.



TENNIS & WILSON,

Reade St., New York,

MANUFACTURERS OF

Angular and Upright Boring Machines,
Boring Machine Augers,
Solid Cast-Steel Carpenters' Augers,
Extra Cast-Steel Auger Bits,
Jennings' Pattern Auger Bits,
Car Bits, 9 and 12-inch Twist,
Phonix Superior Cast-Steel Auger
Bits,
Screw-Driver Bits,

Taper Pod Gimlets,
Countersink Gimlet Bits,
Counte Bits, screw-Driver Bits,

TENNIS & WILSON, Manufacturers and Jobbers of Hardware,

80 & 82 READE STREET, NEW YORK. SOLE AGENTS FOR

's Files.

's Wood Mouse Traps.

t Call's Patent Wrenches, Calipers, Dividers.

Axes and Hatchets.

's Molasses Gates.

BEST WOOD

TURNING

RIPLEY MFG CO

HONVILLE CON

DEPOT FOR
meters, Patent Levels and Iron Planes.

| Alken's Saw Sets and Awls and Tools. |
| Leach's Saw Sets. |
| Stillman's Saw Sets. |
| Stillman's Saw Sets. |
| A. Lothyno & Co., Trowels, Bres

Handles for Manufacturers.

SELECTED STOCK,

SEASONED THOROUGHLY,

WELL MADE.

Orders solicited from close buyers who want good work.

RIPLEY MANUFACTURING CO.,

Unionville, Conn., U. S. A.

MANUFACTURERS OF Common Mouse Traps, Porcelain Lined Lemon Squeezers, Mallets, Rosewood Faucets, Steak Hammers and Housefurnishing Ware.

SANDS' TRIPLE MOTION WHITE MOUNTAIN ICE CREAM FREEZERS.



HAND OR POWER White Mountain Freezer Co., HAND OR POWER. HAND FREEZER. \$3.50 to \$25.00 \$75.00 and \$175.00 \$75.00 Laconia, N. H., U. S. A. SPECIAL ATTENTION GIVEN TO EXPORT ORDERS.



New Diamond Step. Forged from Norway iron bars. Derby No. 2, Fifth Wheel. The most

WILCOX & HOWE.

Birmingham, Conn.,

MANUFACTURERS OF

First-Class Carriage Forgings, Fifth Wheels, Steps, Body Loops, Stay Ends, Offsets, Long Joint Ends, &c., &c.

Our Illustrated Catalogue furnished to the trade.

FILES & RASPS

HAND-CUT. Manufactured by

JOHNSON & BRO. No. 1 Commercial Street, Newark. N. J. SPENCER & UNDERHILL

American Screw Co.'s Wood, Machine and Rail Screws, Stove and Tire Bolts, Rivets, &c. O. Ames & Sons, Shovels, Spades and Scoops.
A. Field & Sons, Tacks, Brads, Nails, &c.
G. F. Warner & Co., Carriage Clamps.



THE CIANT PAD LOCK. THE SMITH & EGGE MFG. CO.

(Centennial Award.) "Superior in Every Respect."

This is one of the best selling Locks in the market and affords the dealer a large profit. It is thoroughly and strongly made-of the best material-very hand some in appearance, and every Lock is warranted. Orders solicited. Address as above Lock Box 105, Bridgeport, Conn.

PRIZE MEDALLISTS:

Exhibitions of 1862, 1865, 1867, 1873, 1873, and only award and medal for Noiseless Steel Shutters at Philadelphia, 1876, and Paris, 1878.

CLARK & CO.,

Noiseless Self-Coiling Revolving STEEL SHUTTERS,

> FIRE AND BURGLAR PROOF. ALSO IMPROVED

Rolling Wood Shutters

ing Architects of the World. send for Catalogue,

- Office and Manufactory, 162 & 164 West 27th St., N. Y.



QUEEN CITY CABINET CO., Cincinnati, Ohio.



HOWSONS OFFICES FOR PROCURING

UNITED STATES AND FOREIGN PATENTS.

Forrest Buildings, 19 SOUTH FOURTH ST., PHILADELPHIA AND MARBLE BUILDINGS 605 Seventh St. (Opposite U. S. Patent Office),
Washington, D. C.
H. HOWSON.
Solictor of Patents.

PRINCIPAL OFFICES, PHILADELPHIA.

PATENTS.

THOMAS D. STETSON, 23 Murray St., N. Y., Patent Solicitor and Expert. PATENT MINERAL WOOL

Entirely fire-proof, undecaying and the best non-conductor of Heat, Cold and Sound Used exten-sively for lining steam pipes and boilers, under-ground and open-sir pipes, water tanks, refrigerat-ors, cold storage houses, roofs and walls of dwell-ings, drying kilns, deadening floors of railway passenger cars, &c.

A. D. ELBERS.

26% Broadway, New York.

Black Diamond File Works.







Awarded by Jurors of Centennial Exposition, 1876, for "VERY SUPERIOR GOODS."

G. & H. BARNETT 39, 41 & 43 Richmond St., Philadelphia.

CHARLES B. PAUL Manufacturer of HAND CUT FILES.

THE STANLEY WORKS,

Wrought Iron Butts, Hinges

DOOR BOLTS,

Plain, Japanned, Bronzed and Plated.

FACTORIES:

Jacobus & Article Locks, &c. Sandusky Tool Co., Planes and Planel rons Geo. M. Eddy & Co. Measuring Tapes.

WOOD

WAREHOUSE:

New Britain, Connecticut.

79 Chambers St., New York.

GRAHAM HAINES. 113 Chambers and 95 Reade Streets, New York.

**HARDWARE HARDWARE Co. Co. Curry Comb Co., ombs.

**Horox & Horox.

**Horox & Co., ombs.

**Horox & Horox.

**Horox & Co., ombs.

**Horox & Co., ombs.

**Horox & Co., ombs.

**Horox & Co., ombs.

**Horox & Horox.

**Horox & Co., ombs.

**Horox & M.G. Co., ombs.

**Horox & Co., ombs.

**Co. & Osborna ence Curry Comb Co., Lauvence Curry Como Co.,
Curry Combs.
Howard Bros. & Co.,
Cotton, Wool and Curry Cards
Thompson, Derby & Co.,
Seythe Snaths.
Otsego Fork Mills.
Steel Forks, Rakes, Hoes &c.
H. Knickerbacker,
Scythes, Axes and Tools.
H. W. Kipp, Nail Hammers.
Kloman, Park & Co., Vises,
Picks, Mattocks, Orub Hoes, &c.
Jacobus & Nimbek Mfg. Co.,
Locks, &c.

Clark Bros. & Co., Carriage Bolts, &c., Lowerre & Tucker, the Genu ine Knox Fluting Machine. T. B. Barclay, "Dodge's Kentucky Cow Bells. Laise Bros., Swift's and Gro-cers' Coffee Mills and Measuring Faucets, &c. T. C. Richards Hardware Co. Bright Wire Goods, Picture Nails, &c.

THE ADAMS AND WESTLAKE



Wood-Lined and Plain Zinc

Will not warp or lose their shape. Easily kept clean.

For sale by Hardware and Stove Dealers. THE ADAMS & WESTLAKE MFG. CO.,

Sole Manufacturers of Mann's Tin-Rim Sieves.



THE AMERICAN MACHINE CO.,

No. 1916 to 1994 North 4th St., Philadelphia.

No. 198 Chambers St., New York.

SPECIALTIES: Fluting Machines, Hand Fluters, Plaiting Machines, Christmas Tree Holders, Bickford Portable Pump, Mrs. Potts' Patent Cold-Handle "Crown" Irons, &c., &c.

COXE BROS. & CO., Cross Creek Lehigh Coal. The Purity and Strength of this Coal especially adapt it for the working

of Iron and Metals. GENERAL OFFICE, 12 & 14 Trinity Building, 111 Broadway, New York, BRANCH OFFICE. 206 Walnut Place. Philadelphia

E. B. & S. W. ELY, Agents, P. O. Box 262, N. Y.

Carpet Tacks, Iron, Tinned and Leather. New York Salesroom, 116 Chambers Street. AMERICAN TACK CO., Fairhaven, Mass,

RED AMER

Pad

Dead 110

Catalogu PHILA 821 Cherr

CLO.

T. J. A1

A. FIELD & SONS.

TAUNTON, MASS.,

MANUFACTURERS OF

AMERICAN AND FRENCH

WIRE NAILS

TACKS, SHOE NAILS,

And Every Variety of Small Nails.

Offices & Factories at Taunton, Mass.

Warehouse at 78 Chambers St., New York,

where may be found a full assortment of Tacks, Brads, Wire Nails, &c., for the accommodation of the New York Wholesale and Jobbing Trade

Any variations from the regular size or shape of the above-named goods made from sample to order. E

A SILVER MEDAL has been awarded above goods at the Paris Exposition, being the only medal awarded any American manufacturer of Tacks and Wire Nails.

Machinery

TRANE BROTHERS MFG. CO., Chicago.

STAR LOCK WORKS.

Door Springs. Pad Locks,
Dead Latches,

Dead Latch 110 South 8th St., and Sansom, bet. 8th



HILLEBRAND & WOLF.



REDUCTION IN PRICE LIST FOR THE FALL TRADE. AMERICAN MINCING KNIFE, BEST AND CHEAPEST

ER,



Catalogue of Hardware Novelties upon applica PHILADELPHIA NOVELTY MFG. CO.,

Philadelphia, Pa. CLOTHES WRINGERS.



T. J. ALEXANDER, Manager, BOSTON, MASS.

THE ANSONIA CORRUGATED STOVE PLATFORM. With Patented O. G. Border.

ROUND ZINC. 27, 30, 32, 31, 36 inch.



Cut Showing Round Platform

Manufactured of heavy metal, requiring no nailing or lining, the edge retaining its form. Superior pattern, finish and quality,

Send for List and Discount. Packed 12 in each case.

THE ANSONIA STOVE REST.



This Cut is the Actual Size of 2-inch.

STOVE RESTS are designed to place under the feet of Stoves and Ranges, for the purpose of ing them from the floor or platform. They are about %-inch thick, covered with sheet metal in zinc, brass and nickel plate. Highly polished and fin-ished. Packed one set of 4 pieces in each paper box, and 36 sets in each case. Sizes (inside of circle

2, 21/2, 21/4, 31/4 inch. Send for full Description

ANSONIA BRASS AND COPPER CO., 19 Cliff St., New York,

NEW YORK BELTING AND PACKING COMPANY.

Vulcanized Rubber Fabrics

In Every Form, Adapted to Mechanical Purposes.



CABLE ANTISEPTIC COTTON HOSE. Patented July 8, 1873. This is a rubber-lined, extra heavy Col Hose, woven seamless in a peculiar manner, to insure compactness and durability. The 3-ply weights to the section, and has been tested to go its. It is the lightest and most durable seamless Cotto se in the market. For use on Hand or Steam Fire Engines.

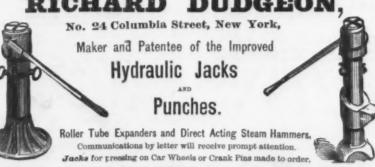
ANTISEPTIC LINEN AND RUBBER-LINED HOSE. A cheap and durable article for mining il and factory purposes. Will stand a pressure of 300 Rbs. per square inch.

CAUTION.—Our name is stamped in full on all our best Standard Belting, Pack and Hose. Buy that only. The best is the cheapest.

WAREHOUSE, 37 and 38 Park Row, New York. JOHN H. CHEEVER, Treasurer.

Price lists and further information may be obtained by mail or otherwise on application

RICHARD DUDGEON,



PUTNAM NAIL

It is the only Hot Forged and Hammer Pointed Horse Shoe Nail, made by ma chinery, in the World.

Some other manufacturers claim to make a hot forged Nail, but you will observe on all such a sheared edge near the point.

P. O. Address, Neponset, Mass., U. S. A.

THE PUTNAM NAIL CO., Boston.

General Summary of the Trade Mark Laws of the States of the United States.*

BY FRANCIS FORBES.

In Missouri "An act" (was approved March 6, 1866) "to protect mechanics, manufacturers and others in their trade-marks ? It provides that a description of the trade-mark, duly acknowledged, shall be recorded in the office of the Recorder of Deeds of the county where articles to bear the mark are county where articles to bear the mark are manufactured, and that such record shall be notice to all persons. A second act with same title was approved February 22, 1870. It provides in addition that any person who shall knowingly and willfully forge or counterfeit any representation, &c., of the private label, brand, stamps, wrapper, engraving, mold or trade-mark of any manufacturer, &c., with intent to pass off any goods, &c., to which said forged counterfeit representation is affixed, or in connection with sect, to which said forged counterfeit representation is affixed, or in connection with which same may be used as the goods, &c., of such manufacturer, shall be deemed guilty of a naisdemeanor and punished by imprisonment in the county jail for a period of not less than three months nor more than twelve months, or fined not less than \$500 nor more than \$5000, or both.

It also provides that any approxy who shall

nor more than \$5000, or both.

It also provides that any person who shall with intent to defraud, have in his possession any die, plate, brand, engraving, printed label, stamps, imprints, &c., or trade-marks, &c., or any imitation of said marks, &c., usually affixed by any manufacturer, &c., for the purpose of making impressions or selling the same when made impressions or selling the same when made or using the same in connection with any other articles made, &c., by him for the purpose of making impressions or selling the same when made, or using the same in connection with any other article made, &c., and passing the same off upon the community as the original goods, &c., of any other person, or who shall in fact sell or use other person, or who shall in fact soil or use the same, &c., or who shall wrongfully or fraudulently use the genuine label, &c., or trade-mark with intent to pass off any goods, &c., not the manufacture of the person to whom such label, &c., properly be-longs, shall be deemed guilty of a misde-meanor and punished as before stated.

It also provides that any person who shall vend or keep for sale any goods, &c., upon which any forged imitation or counterfeit label, &c., shall be placed, knowing the same to be imitation or counterfeit, shall be deemed guilty of a misdemeanor and pun-ished as before stated, except that the lowished as before stated, except that the low-est term of imprisonment is one month. He shall also be liable to a civil action to the person whose goods, or whose labels, &c., are imitated or counterfeited for all dam-ages which such person shall sustain, both by virtue of the loss of profits and the dam-age done to the reputation of the genuine article, &c., and he may be enjoined from doing any of the acts mentioned.

It also provides that any person who, with

It also provides that any person who, with intent to defraud, shall affix any label, &c., which shall designate any article by any word or words, or by general design, which shall be the same to the eye, or in sound to the ear, as the word or design used to desig-nate goods, &c., of another, shall be liable to the latter in the penal sum of \$500, and for a further sum equal to the amount which the aggrieved party might have received for the same amount of genuine goods, &c., and may be punished by imprisonment in the County jail for a period not less than one month, or more than twelve months. The seizure and destruction of counterfeit trademarks, and seizure and sale of goods bearing such marks, is provided for.

The General Statutes of Nebraska (1873, p. 758) contain a provision that "if any test of the same, wholly or in part, to the eye or in sound to the ear, as the words used by any other person to designate which goods, or shall knowingly sell or offer for sale any such bottle, &e, with such stamp. He shall also be liable to the party aggrieved in the penal sum of \$100 for each offenso.

In 1875 and 1878 statutes were passed which are given in full: "An act to pro-

p. 758) contain a provision that "if any person shall falsely make, alter, forge, counterfeit, print or photograph, any private stamp, brand, wrapper, label or trade-mark, usually affixed by any mechanic, manufac-turer, druggist, merchant or tradesman, to or upon the goods, wares and merchandise, preparation or mixture of such mechanic, man-ufacturer, druggist, merchant or trades-man." * * With intent to damage man." " " With intent to damage or defraud any person, &c., or who shall utter or publish, as true and genuine, any such, knowing the same to be false, &c., shall be imprisoned in the penitentiary for any space of time not exceeding twenty years, nor less than one year, and pay a fine not exceeding \$500. not exceeding \$500.

It also provides for the punishment of

March 8, 1865) "concerning trade-marks and names." The registration of the trade-mark or name with the Secretary of State is necessary to obtain advantage of act. For such registration there is a fee of \$20. It is made unlawful for any person, without the consent of the owner of trade-mark, to use such mark for the purpose of represent-

"Every person who shall knowingly aid or abet, or counsel in or procure the commission of any offense which is by this act made a misdemeanor, shall be held to be guilty of a misdemeanor," and punished as

Trade-marks may be transferred like personal property, and shall be entitled to same protection as personal property. Courts may restrain by injunction any use of trade-

may restrain by injunction any use marks in violation of act.

The Revised Statutes of the State of New Jersey (1877) contain the following section the title "Crimes," viz.: "Every with the title "Crimes," viz.: "Every wit under the title "Crimes," viz.: "Every person who shall knowingly and willfully person who shall knowingly and willfully force or counterfeit, or cause or procure to be forged or counterfeited, upon any goods, wares or merchandise, the private stamp or label of any mechanic or manufacturer, with intent to defraud the purchasers or manufacturers of any goods, weres or mer-chandise whatsoever, or who shall vend any goods, wares or merchandise, having thereon any forged or counterfeited stamps or labels, purporting to be the stamp or label of any

17, 1862) "to prevent and punish fraud in the use of false stamps, brands, labels or trade-marks." It provides that any person who shall knowingly and willingly forge or counterfeit any representation, &c., of the private stamp, brand, wrapper, label or trade-mark usually affixed by any manufac-turer, &c., or cause same to be done with inturer, &c., or cause same to be done with intent to pass off any work, goods, &c., as the work, goods, &c., of such manufacturer, shall be deemed guilty of a misdemeanor, and punished by imprisonment in the county jail for a period of not less than six nor more than twelve months, or fined not more than \$5000. than \$5000.

than \$5000.

It also provides the same punishment for any person who shall with like intent have in his possession any die, plate, brand, engraving or printed label, &c., or imitation of same usually affixed by any manufacturer, &c., to articles made by him for the purpose of making impressions or selling the same when made or using same upon any article, and passing same of moon the comsame when made or using same upon any article, and passing same off upon the community as the original goods, &c., of any other person; or who shall fraudulently use the geunine stamp, &c., or trade-mark with intent to pass off any spurious goods, as genuine

It also provides that any person who shall vend or keep for sale any goods, &c., upon which any forged or counterfeit stamps, &c., shall be placed, knowing the same to be counterfeit, shall be deemed guilty of a misdemeanor and punished by a fine not exceeding \$500, and shall also be liable in a civil action to a person whose goods, &c. are counterfeit or whose trade-marks are forged, for all damages such person may sustain by means of any of the acts men-tioned, and may be restrained by injunc-

It also provides the same punishment for any person who shall, with intent to de-fraud, knowingly affix or cause to be affixed to any bottle, can, box or package containing any goods, &c., any stamps, &c., which shall designate the goods by a word or words

which are given in full: "An act to pro-tect the owners of bottles, boxes, baskets, casks and syphons used in the sale of soda waters, mineral waters, porter, ale, cider, ginger ale, small beer, lager beer, white beer, or other similar beverages." Passed

May 14, 1875.

Section 1.—All persons and corporations engaged in the manufacture, bottling, packing in boxes, baskets or casks, or in the sale of soda waters, mineral waters, porter, ale, cider, ginger ale, small beer, lager beer, white beer, or other similar beverages in syphons or bottles packed in boxes, baskets or casks, or unpacked with their name or names, or pressed or otherwise produced upon such bottles, syphons, boxes, baskets, casks, or upon the faucets, stoppers, corks or other thing connected therewith or appersons keeping false dies, &c., for the purpose of counterfeiting as above, by imprisonment for not less than six months nor more than 10 years, and a fine not exceeding \$1000. "Any person who shall rent, or keep for sale, any goods," &c., "upon which any forged or counterfeit stamps," &c., "or trade-marks shall be affixed and intended to represent the said goods," &c., "of any person or persons, knowing the same to be counterfeit, shall be punished by a fine not exceeding \$100."

In Nevada "An act" (was approved March 8, 1865) "concerning trade-marks and names." The registration of the trade-mark or name with the Secretary of State, a description of the names and marks so used by them respectively, and cause such description to be published once in each week for three weeks successively in such county, except the city and county of New York and the city of Brooklyn, in the county of Kings, where each publication shall be made for the same time (Sundays excepted) in two daily newspapers published in the cities of New York and Brooklyn respectively.

Section 2.—It is hereby declared to be unlawful for any employee, corporation, perpertaining thereto, may file in the office of

Section 2.—It is hereby declared to be unlawful for any employee, corporation, person or persons hereafter, without the written consent of the person, firm or corporation, as owner thereof, to fill with soda water, mineral water, porter, ale, cider, ginger ale, small beer, lager beer, white beer or other beverages any such syphon or bottle so marked, or to deface, file off, turn off or by other mans obliterate or effects. person violating act shall be guilty of misdemeanor and punished by a fine of not less than \$25, nor more than \$500, or by imprisonment in the country jail for not less than five days nor more than thirty days, or both, and he shall be further liable to the party aggrieved for all damages actually incurred, to be recovered as a debt.

Counterfeit rade-mark, or using a counterfeit rade-mark, or lesling any article bearing a counterfeit trade-mark, filed, &c., knowing it to be such, or having good reason to know it to be such, is unlawful and punishable as above.

Filling old bottles and casks having trademarks attached, with intent to defraud, is a misdemeanor and punishable as above.

**Prepared for the United States Trade Mark

Association.

**Section 3.—The fact of any other person marks attached, with intent to defraud, is a misdemeanor and punishable as above.

Prepared for the United States Trade Mark Association.

**Prepared for the United States Trade Mark Cets, stoppers, corks or other thing connect.

A.C.COES

Cutlery.

N & LAUTERJU



"ELECTRIC RAZORS," And the "ELECTRIC SHEARS." Nickel Plated

Agents for the BENGAL RAZORS. AMERICAN TABLE CUTLERY, BUTCHER KNIVES, &c.

91 Chambers and 73 Reade Sts., N. Y. 423 N. Firth St., ST. LOUIS, Mo.

MERIDEN CUTLERY COMPANY.

C. THE "PATEST IVORY" HANDLE TABLE KNIFE.

The oldest manufacturers of Table Cutiery in America. Exclusive makers of the CELLULOID HANDLE for Table Cutiery. A most beautiful and perfect substitute for Ivory. Also makers of all kinds of TABLE, BUTCHER AND HUNTING ENIVES. Illustrated catalogues with prices sent to the trade on application.

No. 49 Unambers Street, New York.



Spoons, Forks, Knives, Etc.



The only survivor of the four Rogers; recognized by the Supreme Court of this State in the test at w. C. Parker.

Send for list of other patterns.

WM. ROCERS, Wallingford, Conn. With SIMPSON, HALL, MILLER & CO.

Fermerly of Hartford and West Meriden.



Established 1853. Manufacturer of Pen and Pocket Cutlery, Pepperell, Mass. My Blades are forged by hand from the best Cast Steel, and warranted. To me was awarded the Gold Medal of the Conn. State Agricultural Society.

HENRY SEYMOUR CUTLERY CO.

Every pair warranted. Sold by Hardware Dealers throughout the country. Salesroems, 84 & 86 Chambers Street, New York City. Manufactory, HOLYOKE, MASS.





BRIDGEPORT, CONNUSA. STANLEY RULE AND LEVEL CO.,

MANUFACTURERS OF

Improved Carpenters' Tools.



FACTORIES, New Britain, Conn.

WAREROOMS. 29 Chambers St.,

No. 113, Improved Adjustable Circular Plane



BAEDER, ADAMSON & CO., Manufacturers of SAND & EMERY PAPER & EMERY CLOTH.

Ground Emery. Corundum & Flint, Clue & Curled Hair, Hair Felt, & Felt-ing for Covering Boilers, Pipes, &c., Cow Hide Whips. Stores: PHIL & DELPHIA, 730 Market St., NEW YORK, 67 Beekman St. | BOSTON, 143 Milk St. CHICAGO, 182 Lake St.



Wilson Bohannan, Manufacturer of Patent BRASS PAD LOCKS

diroad Switches, Freight Cars, and the Hard Frade. All sizes, with Brass and Steel Keys ad without chains. Patent Horizontal Rim Cylinder Night Latch. Self-adjusting to doors of any thickness, with Patent Stop and Drav

PASSENGER CAR LOCKS, Bronzed, Nickel-Plated and Japann

Cutlery.

ALFRED H. HILDICK, 12 Warren St., N. Y., Importer of CHAINS, ANVILS, VISES, &c.

Agency of HILL BROTHERS & CO., WALSALL, ENGLAND GENERAL HARDWARE MERCHANTS,

BALL'S PAT. SOLID STEEL SHEEP SHEARS. These shears are unsurpassed for cheapness, dura-bility and utility. They are made of one solid piece of steel from point to point, and cannot be broken in see either in the bow or at the junction of the shank and blade. Samples can be seen at above address, or ample lots turnished.



Joseph Rodgers & Sons'

CELEBRATED CUTLERY, No. 82 Chambers Street, New York.

P. & W. CLATWORTHY, Agents. The demand for Joseph Rodgers & Sons productions having considerably increased, they have, in order to meet it, greatly extended their

Manufacturing Premises and Steam power.
To distinguish Articles of Joseph Rodgers & Sons' Manufacture, please to see that they their Corporate Mark.

P. O. BOX 3962. ESTABLISHED 1836.

Alfred Field & Co., COMMISSION MERCHANTS,

New York, Birmingham, Sheffield, Liverpool.

Guns and Pocket Cutlery. SPECIALTIES.

Headquarters for

ELEYS BROS.' GOODS, WRIGHT'S ANVILS, WILSON'S BUTCHER KNIVES, &c.
WOSTENHOLM'S POCKET CUTLERY AND RAZORS. BUTCHER'S FILES, TOOLS AND RAZORS, SUICHER SPILES, TOULS AND NAZONS,
STUES FILES, WESTERN FILES,
GREAVES' SHEEP SHEARS,
CHESTERMAN'S TAPES,
GERMAN COIL AND HALTERS and other CHAINS.

BRADES' TROWELS AND HOES, CANASTOTA KNIFE CO.'S POCKET KNIVES. Etc., Etc., Etc., Etc., All sorts of Hardware and Merchandise for im Etc., Etc.,

ROBERT SORBY & SONS SHEFFIELD,

port and export purchased on commission

Kangaroo Sheep Shears



ALFRED FIELD & CO., 3 Chambers St., NEW YORK,

SOLE AGENTS. Send for price list and terms

Indianapolis, Ind.





STUMP PULLER M. E. Bunger & Co.





Frederick's 3-Horse Equalizer is a perfect Double steher, a perfect 2-Horse Stretcher, a perfect attachment for BROOKLYN, N. Y. M. E. BUNGER & CO., Indianapolis, Ind., Manufacturers,

Cutlery.

McCOY & CO.,

IMPORTERS OF Hardware, Cutlery, &c.

SOLE AGENTS FOR

THEILE & QUACK'S CELEBRATED

Pocket Knives and Scissors.

A large stock of Muzzle & Breech Loading

English Guns.

132 DUANE ST., NEW YORK.

Silver Medal, 1878-Paris.



J. R. SPENCER & SON. Albion Steel Works, Sheffield,

MANUFACTURERS OF FILES STEEL,

Table Knives, Razors, Shovels, &c., &c., of every description.

CORPORATE MARK



Granted 1749.

SCHRODER LOCK CO.,

BUILDERS' HARDWARE. Locks, Latches, HINGES, **BRONZE & BRASS GOODS**

Of all kinds. JAIL LOCKS. Office and Works. 6 & 18 East 7th Street CINCINNATI, OHIO. A liberal discount to the

PAT.DEC. 26.1871 Established in 1839. A. G. COES & CO. WORCESTER. BEASS.. Successors to L. & A. G. Coes, Manufacturers of THE GENUINE COES Screw Wrenches. PATENTED. May 2, 1871. December 26, 1871. December 28, 1875

The backstrain when the wrench is used is borne by the bar—not by the handle.

The strongest Wrench made, and the only suceasful Re-enforced Bar.

A. G. COES & CO.,

August 1, 1876.

Our Agents, GRAHAM & HAINES, 113 Chambers St., New York, carry a full line of our goods, and will be pleased to serve you at factory prices.

GLASS BALL CASTERS For Furniture, Pianos, &c.



The Best and Most Ornamental Caster in the Market.

Do not cut, soil or rust carpets or matting. Center bearing, they do not split furniture. Warranted not to break. They improve the tone of planos 25 per cent, and are recommended by physicians as a preventive of rheumatism, sleeplessness, &c. By insulating bedsteads they prevent loss of electricity from the body, and protect from lightning.

For sale by the Hardware trade generally.

For circulars and price lists address,

The Glass Ball Caster Co.,

96 JOHN STREET, NEW YORK.

CLARK'S RUBBER WHEELS.



This wheel is the best now in the market, and is attracting the attention of large manu facturers which is ten time greater than the extra cost of this

PRI

GEO. P. CLARK, Windsor Locks, Conn

COBB & DREW, Plymouth, Mass.

danufacturers of Copper, Blass, and Iron Rivets : Com-mon and Swedes Iron, Leathered, Carpet, Lace and Gimit Facks : Fluishing, Hungarian, Trunk Clout and Circle Son Nalls, &c. Bluets made to Order. NEW YORK AGENCY

George C. Grundy. HARDWARE, 165 Greenwich Street,

for the Philadophia Star Carriage and Tire Bolts. JAMES COMLY,

4739 Paul St., Frankford, Philadelphia Pa., Manufacturers of

Hardware Novelties, CHAS. E. LITTLE, 59 Fulton St., N. Y.

Polish Chast Steel Proops Asspert

Solid Cast Steel Augers & Reamers For Boring PUMP LOGS. All sizes in ste Seeket Shanks, Ring Handles, and Connect Resis for the above to order. Also Tenoning Te for Joining log ends. Caopers' and Staters Tot Tool Cheets. Tools for all traces a specialty

ROCERS & SON, AA,

Superior Electro Silver-Plated Table Ware.



F. WILLSON ROCERS.



On Dessert Spoons and Forks, . . . 72 dwts. per gross. On Table Spoons and Medium Forks, 96 dwts. per gross. Our Knives are guaranteed to STRIP 12 dwts. of Silver per Dozen.
All goods are put up one Dozen in A Box.
All our Knives are put up in the latest and most attractive style, with guarantee card in every box. ALL OTHER GOODS IN PROPORTION.
All our Spoons, Forks, etc., are plated upon 18 PER CENT. NICKEL SILVER, The best base known for plating upon.

HARTFORD CONN. 24 Our Hollow Ware is plated upon the FINEST WHITE METAL, and is guaranteed to be plated fully

50 Per Cent. More Silver

than any other brand of goods in the market.

OUR GOODS ARE PLATED 20 PER CENT. ABOVE STANDARD PLATE. P. O. Address, Drawer 30. WM. ROGERS & SON, Hartford, Conn.

On Spoons

HALL, ELTON & CO.,

Electro Plated Ware, German Silver and Britannia Spoons.



THE "EASTLAKE," (Patented.)

Factories, Wallingford, Conn.

ental

Co.,

ELS.

al is the

atten

W,

dy.

Tire Bolts.

Salesroom, 75 Chambers Street, New York.



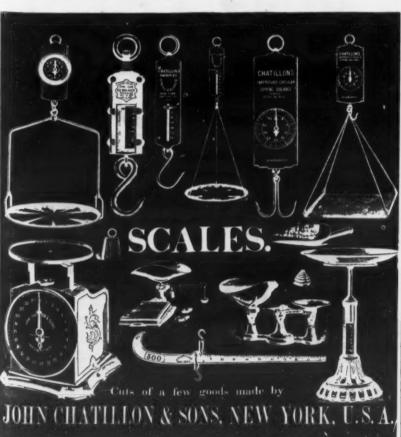
FORKS, SPOONS, Etc., WALLACE BROTHERS, Wallingford, Conn.

THE HOWE SCALE CO., Improved Scales & Weighing Machines of every Variety.

BORDEN, SELLECK & CO., 97 Lake Street, Chicago. PRIEST, PAGE & CO., 325 Broadway, New York. PRIEST, PAGE & CO., 145 Franklin Street, Boston. J. FRED. DENNIS, 16 Holborn Viaduct, London. Works at Rutland, Vt.



Four Pointed Steel Barbed Cable Fence Wire, Manufactured by H. B. SCUTT & CO., Buffalo, N. Y.



WESTON DYNAMO-ELECTRIC MACHINE NICKEL.

us to give greatly reduced estimates for complete outfits.

We are furnishing outfits specially adapted for Stove Work, giving a pure white deposit on plain or mat surfaces.

Outfits complete, with Dynamo-Electric Machine Tanks, Anodes, Solution, &c., &c., \$250.

We beg to refer to the following Stove Manufac turers among 500 other houses using the Weston Machine: Richardson & Boynton, & S. Jewett & Co., Fuller, Warren & Co., Petry & Co., Detroit Stove Works, Michigan Stove Cc., Co-operative Stove Co., E. & C. Gurney, Hamilton & Toronto, and many others.

INFRINGEMENTS.

We call attention to infringements of the Weston Machine, in which Automatic Switches for Plating Machines. The adoption of these machines will certainly lead to great loss to parties purchasing or using them.

CONDIT.HANSON & VAN WINKLE Sole-Quents NEWARK, N.J. U.S.A.

ENGLISH AGI NCY: 18 Caroline Street, Birmingham.

ALWAYS ASK FOR



THE MOST POPULAR PENS IN USE. For Sale by all Stationers.

ESTERBROOK STEEL PEN CO., Works, Camden, N. J. New York.

ed therewith or pertaining thereto, or having the same in his, her, their or its possession with intent to sell or for the sale therein or thereby of any soda water, mineral water, porter, ale, cider, ginger ale, small beer, lager beer, white beer or other similar beverage, and any such owner or fastened in the socket because the ends of the agent of such owner who shall make oath or affirmation before any magistrate that he has reason to believe and does believe that any of such syphons, boxes, baskets, casks, faucets, stoppers, corks or other thing conany of such syphons, boxes, baskets, casks, faucets, stoppers, corks or other thing connected therewith or appertaining thereto, belonging to him, them or it, marked, branded, stamped, engraved, etched, blown, impressed or otherwise produced thereon and registered as aforesaid, are being unlawfully used by any corporation, person or persons, selling or manufacturing soda water, mineral water, porter, ale, cider, ginger ale, small beer, white beer or other similar beverages, or that any junk dealer, manufacturer or vender of bottles, boxes, baskets, casks, faucets, stoppers or corks shall have any of such syphons, bottles, boxes, baskets, casks, faucets, stoppers or corks secreted upon his premises, or in any other place, or is or has become unlawfully possessed thereof, or has defaced, filed off, turned off, or by other means obliterated or turned off, or by other means obliterated or effaced the names, marks or devices thereon or on any of the same with unlawful intent, then the said magistrate shall thereupon proceed to obtain the same under the existing provisions of law in relation to search warrants, which are hereby declared to fully relate to the purposes of this act.

Section 4.—All acts and parts of acts in-onsistent herewith are for the purpose of this act hereby repealed.

Section 5-This act shall take effect immediately.

"An act supplemental to chapter three hundred and six of the laws of eighteen hundred and sixty-two, entitled An act to prevent and punish fraud in the use of stamps, brands, labels or trade marks."

stamps, brands, labe Passed June 8, 1878. Section 1.—Any person or persons who, with intent to defraud or to enable another to defraud any person, shall manufacture or knowingly sell, or cause to be manufactured or sold, any article or articles marked, stamped or branded, or encased or enclosed stamped or branded, or encased or enclosed in any box, bottle or wrapper having thereon any engraving or engravings, or printed labels, stamps, imprints, marks or trademarks, which article or articles are not the manufacture, workmanship or production of the person named, indicated or denoted by such marking, stamping or branding, or by or upon such engraving or engravings, printed labels, stamps, imprints, mark or trade-mark, shall, upon conviction thereof, be deemed guilty of a misdemeanor, and for such offense shall forfeit and pay a fine of \$100, to be recovered with costs in any of the courts of this State having cognizance the courts of this State having cognizance thereof in an action to be prosecuted by the District Attorney in the name of the people, and the one-half of such recovery shall be paid to the informer and the residue shall be

applied to the support of the poor in the county where such recovery is had. county where such recovery is had.

Section 2.—Any person or persons who, with intent or to enable another to defraud any person, shall manufacture or knowingly sell or expose for sale or offer to sell or have in his or her possession, with intent to sell, any article or articles marked, stamped or branded, or encased or enclosed in any box, bottle or wrapper, having thereon printed, marked, stamped or engraved any word or words, sign or signs indicating or denoting or purporting to indicate or denote the qualwords, sign or signs indicating or denoting or purporting to indicate or denote the quality, grade or character of such articles or articles, which do not truly indicate, denote or represent the quality, grade or character of such article or articles, shall, upon conviction thereof, be deemed guilty of a misdemeanor, and for each such offense shall forfeit and pay a fine of \$100, to be recovered, with costs, in any of the courts of this State having cognizance thereof, in an action to be prosecuted by the District Attorney, in the name of the people, and the one-half of such recovery shall be paid to the informer, and the residue shall be applied to the support of the poor in the county where such recovery is had.

Section 3.—This act shall take effect im-

Section 3 .- This act shall take effect immediately.

(To be continued.)

A decision of interest to the hardware trade has been rendered by Judge Lowell, in the United States Circuit Court of Massachusetts, in the case of the Millers' Falls Company vs. Quimby S. Backus, ren dered December 12th. The following is the text of Judge Lowell's decision:

The plaintiffs are the owners of the reis med patent, No. 6350, dated March 23. 1875, granted to them upon an invention of Charles H. Stockbridge, their assignor. The original patent, dated February 19, 1867, is not in evidence; I understand that the specification was identical with that of the reissue with the exception of the claim.

The invention relates to an improvement in the stocks or braces for bits and other tools. The specification and drawings show a socket with the usual rectangular cavity for receiving the shank of the tool; upon the outside of the socket is a screw; a nut, sleeve or shell screws on to the socket, and beyond the screw is a continuation of the nut, which contains two dogs pivoted near the base or mouth of the nut, one on each side, and having the ends nearest the socket, the base or mouth of the hos, side, and having the ends nearest the socket, free to move inward. The end of the socket nearest the nutconsists of an annular cam, or inverted hollow cone. When the dogs touch the walls of this cam, they are forced inward and come under the shoulder of the shank of the tool which has been placed in the socket, and help to hold it fast.

The Rodney Hunt Machine Company, of Orange, have largely increased their business the present year, and have been en gaged upon several large and important contracts. Among others they have built and put in two of their improved turbule water wheels for Governor Talbot, at his

The defendant says that the dogs are intended to act merely as chocks or wedges to engage the shoulder of the tool and prevent its being pulled out; while the complainants insist that the dogs grasp or gripe the round part of the tool and hold it by the force of the gripe as well as by chocking the shoulder, and that their holding power. The Atlantic Car Works at Salem, which

in fact as grasping devices; both experts speak of them as such, and the model or specimen, which is admitted to be made specimen, which is admitted to be made after the pattern of the specification, will operate in that way. The plaintiffs must have the advantage of the fact in the decis-ion of the questions which depend upon it. Before the time of Stockbridge's invention

Draper and Parker had taken out patent No. 48,763, upon an invention of W. W. Draper, and it is understood that the defendant now owns this patent. The bit brace of Draper consisted of a socket provided with a screw, and next above the socket, that is, nearer the hand of the operator, was a cone; a nut was adapted to screw on to the socket, and on each side of the middle of the nut, outside of it, were, loosely pivoted by their middle, two pieces of iron which may be called dogs or jaws, much longer than the nut, and which met, or might meet, or nearly meet, below the lower end of the nut. When the nut was screwed upon the socket, the upper ends of the dogs or jaws were forced apart by pass-ing over the cone, and thus the lower ends were forced together and surrounded the tool just below the shoulder and held it in place

A question was raised concerning this invention precisely like that in respect to Stockbridge's, whether the jaws can grasp the tool or only act on the shoulder. Here again I am of opinion that the jaws are again I am of opinion that the jaws are capable of grasping some tools, and might, without invention, be made to grasp a great variety of sizes of tools, and therefore this invention of Draper would anticipate that of Stockbridge, if the claim of the latter should

be broadly construed.

The claim of Stockbridge is: "The com-The claim of Slockbridge is: "The combination of the socket F, having cams b b, and a nut B, provided with dogs C C, substantially as and for the purpose set forth." The cams here referred to are sections of the annular cam.

It is admitted by the plaintiffs that, in the existing state of the art, his claim must be limited to substantially such a nut and other elements as are described. The defendants admit that he may claim something, but only on the theory that his dogs or jaws serve to chock the shoulder of the tool inserted in the socket : if constructed to extend to jaws

the socket; if constructed to extend to jaws which grasp the tool, they say it is anticipated by Draper.

The defendant has organized on the inside of a nut or sleeve a pair of grasping jaws which work like those of Draper, and has patented this form of brace. The question, patented this form of brace. The question, therefore, is a very material one, whether, since Stockbridge's patent is held by me to be for a grasping as well as chocking contrivance, it is valid.

trivance, it is valid.

Mere change in the form and proportions of a known instrument or machine, however great, will often be held to be merely colorable or unessential. The inquiry is, whether that indescribable quality called invention has been employed in making the change. The Stockbridge brace appears to be more compact, more convenient to handle, and altogether better for use in the ordinary work for which it is designed than that of Draper; and the change is so great, especially in the nut or sleeve, that it cannot, in my opinion, be called a mere constructive medification. The plaintiffs may therefore claim such a nut as Stockbridge describes, with the graspnut as Stockbridge describes, with the grasping dogs or jaws placed inside the nut or sleeve, and forced into their final position by the annual incline, called in patent the cams b b.

The defendant has reversed the action of the cone or incline at the end of the socket, the cone or incline at the end of the socket, so as to press apart the upper ends of the dogs, and thus to force together their lower ends. This seems to me to be a formal or colorable variation, or, if that expression is too strong, an obvious change of construction not affecting the combination in its essence. Although the jaws, by themselves considered, are the invention of Draper, they cannot be substituted for the dogs or Decision in the Bit Stock Litigation. jaws of Stockbridge on the inside of his nut or sleeve without infringing his combination. This depends upon the simple but material question of fact whether Stock-bridge's dogs act as grasping jaws, which I have already said I find them to be. Decree for the complainants.

INDUSTRIAL ITEMS.

MASSACHUSETTS.

Orders for 1500 portable engine "pop" valves have just been received by the Consolidated Safety Valve Company. This company was organized in Boston during the present year, having purchased all the patents relating to steam safety valves which had been granted to E. H. Ashcroft, of Boston and G. W. Richardson, of Troy. The new company have 35,000 of their valves in use. They have been adopted by the government after a severe test, and are in use upor leading railways in the country. The com

.....

H. D. SMITH & CO.,

Plantsville, Conn.,

Manufacturers of the

BEST QUALITY CARRIAGE MAKERS' HARDWARE.

Manufacture the Largest Variety of Forged Carriage Irons of Best Material and Workmanship.

PRICES LOW FOR QUALITY OF WORK FURNISHED.

FOR PRICE LIST.

SARANAC HORSE NAIL CO. Polished or Blued Horse Nails, Hammered

The Saranac Nails are hammered hot and the finishing and pointing are done cold. Quality is fully guaranteed. For sale by all leading iron and hard. ware houses.

S. P. BOWEN, President and Treasurer.

J. W. LYNDE, Secretary. STERLING: & CO., Agents, 7 and 9 Cliff Street, New York.

METALLIC AMMUNITION,

Rim and Central Fire, all Sizes.

GUN WADS, Black and Pink Edge,

Guaranteed Superior to any Imported.

EX.LONG

BRIDGEPORT, CONN.

PRICE LISTS WITH DISCOUNTS TO THE JOBBING TRADE ON APPLICATION.

44 Ex. LONG

PERCUSSION CAPS.

F. C. Trimmed Edge, W. Proof.

F. L. Ground Edge, W. Proof, Foil Lined, equal to any imported.

D. W. P. Ground Edge, W. Proof, Central Fire, equal to any imported.

Musket, Paper and Tin Boxes.

Berdan, Orcutt and Wesson Primers.

Bullet Breech Caps.

PAPER and BRASS SHOT SHELLS.

Celebrated "U. M. C." Sizes, 8, 10, 12, 14, 16, 20, Central Fire.

BRASS.

Berdan, Solid Anvil. Sturtevant, Movable Anvil. Buffington, Movable Anvil Berdan Primer.

Kenney's Patent Indentation to prevent Wads from starting.

Agents: SCHUYLER, HARTLEY & GRAHAM, New York.

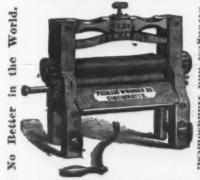
The Leading Wringer of America.

SIMPSON & GAULT,

(Peerless Wringer Co.)

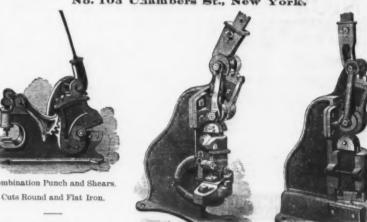
New York Office, 79 Chambers St. 7 Poultry, London. Office and Factory, CINCINNATI, OHIO.

PEERLESS Clothes Wringers



Most Saleable Wringer in the Market. TRY A SAMPLE ORDER.

G. B. WALBRIDGE.



SOLE MANUFACTURER OF

Lyon's Patent Hand and Power DRILLS, SHEARS AND PUNCHING PRESSES.

For Workers in Iron and Steel, adapted to all trades.

IMPORTANT TO RAILWAY COMPANIES, CITIES AND MINE OWNERS. Blake's Challenge Rock Breaker or Sectional Cushioned Crusher,

ted Nov. 18, 1870, will be found the most sconomical and reliable cruffered to the public for crushing railway ballast, road metal, stone tet, quarts, flut, emery, corundum, feldspar, baryts, manganese, platone, &c., &c. This machine dispenses with cast from frame and pit rod forms. All strains are on wrought from or steel.

BLAKE CRUSHER CO., Sole Makers, New Haven, Conn.

HUSSEY, BINNS & CO.,



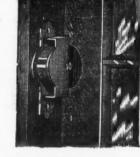
PITTSBURGH.

SHOVELS, SPADES and SCOOPS. PATENT

ANTI-WINDOW

RATTLER.

Dwellings, Cars, Steamboats, &c.



The Anti-Window Rattler supplies a long needed want; it is so simple in construction that it can be used on any window, and so complete that it will prevent the slightest shaking, no matter how great the jar or how old the sash. As shown in cut, it consists of a rubber wheel in a nickel-plated of brass frame; is ornamental as well as useful, and does not interfere with raising or lowering the

HEATON & DENCKLA.

rd.

live

GRAHAM & HAINES,

OTIS D. DANA,

Agents,
Agent,
113 Chambers St., New York,
26 to 32 Pearl St., Boston, Mass



WEYMOUTH'S PATENT.



This knife is the best in use for cutting down hav and straw in mow and stack, cutting fine feed from bale, cutting corn stalks for feed, cutting peat and ditching marches.

The blade is best cast steel, spring temper, easily sharpened, and is giving universal satisfaction. A few momenta' trial will show its merits, and parties once using it are unwilling to do without it. Its sales are fast increasing for export as well as home trade, and it seems destined to take the place of all other Hay Knives.

They are nicely packed in boxes, one dozen each, of 50 lbs. weight, sui able for shipping by land or water to any part of the world.

Manufactured only by

HIRAM HOLT & CO.,

East Wilton, Franklin Co., Maine,

For sale by the Hardware Trade generally

COULTER, FLAGLER

Hardware Manufacturers' Warehouse.



Gay & Parsons' Double Action Ratchet Screw Driver.



Manufacturer of all kinds of

HANDLES AND SEAT STICKS FOR CARRIAGES, &c. kinds of Enameled Goods made of wood, such as Drop Knobs, Furniture Knobs, Organ Stops, Brush Co., &c. Also sole manufacturer of the Fatent ANTI-REPOUS TRIANGULAR PENHOLDER.

V. R. EMMONS, Agent, 131 Duane St., New York, tory at BURLINGTON, Conn., U. S. A.



H. S. MANNING & CO.,



PATENT NICKEL-SEATED "POP" SAFETY VALVES



Purchasers, ware of infringem of our Patents.

Capital, \$100,000.

The Consolidated Safety Valve Co., Office and Manufactory, 51 & 53 SUDBURY ST., BOSTON, Mass.

St. Louis Malleable Iron Company,

2116 MARKET STREET, ST. LOUIS, MO.

JOHN D. FILLEY President.

MANUFACTURERS OF Malleable and Gray Iron Castings. GENERAL HARDWARE, &c.

RIEHLE BROS.





Day, Farrington & Co.,

LOCKSMITHS' AND BELLHANGERS' SUPPLIES.

Locks, Knobs, Night Latches, Gongs, Blank Keys, Wrought Store Door and Flush Bolts.

Electro and Hand Silver Platers, Hand-Plated

Name, Number and Pew Plates. Office, 295 Third Avenue, NEW YORK. Factory, Brooklyn, E. D.



N. Y. MALLET and HANDLE WORKS

Manufacturers of Calkers', Carpenters', Stone Cutte Tin, Copper and Botler Makers'

shapes and sizes, suitable to all grades and shapes of steels required. A sample of steel so all kinds of Handles, Sledge, Chisel and Hamber Handles. Also BALE HOOKS, Patented Feb. 13, 187; a new combination of Hooks.

456 E. Houston St., New York Otty.

for several years have been idle, started up

CONNECTICUT.

By a vote of the stockholders, the Hartford Foundry and Machine Company will wind up its business January 31, 1880, and offers its large stock of tools for sale.

F. J. Obert shipped from his Union Boiler Works, Reading, 104 tons of finished tank and boiler work during November, this being the largest shipments he ever made in one month since the establishment of his boiler works. He paid \$3700 to his employees for November.

Bradles & Co. Empire Chain Works, 246.

ployees for November.

Bradlee & Co., Empire Chain Works, 816
Richmond street, Philadelphia, are making
several sets of heavy chain cable for John
Roach & Sons, shipbuilders, New York.

Messrs. A. Whitney & Sons have recently

made shipments of car wheels to South America and England.

America and England.

J. Barton Smith & Co., manufacturers of files and rasps, Philadelphia, are very busy and behind orders three months. They are building a new three-story shop, which they expect to occupy by the 1st of January next. The market for their files is mostly in the West, while their shoe rasps are distributed among all the States by the large. tributed among all the States by the large shoe finding houses of Boston and New York.

Messrs. Mellert were the successful bid-

and the street in the successful bidders for the 25 tons of iron pipe sold by the city of Reading last week. Price received was \$20 per ton, to be delivered by the city. The Philadelphia Bridge Company, Pottstown, have received orders for three large iron turntables for the Shenandoah Valley Railroad Company.

Railroad Company.

The Stewart Furnace No. 2, Sharon, made 378 gross tons Bessemer pig for the week ending December 6, ranging in grade from

ending December 0, ranging in grade From No. 1 to 3.

The blowing in of the Shenango Furnace No. 2, at Middlesex, on Friday, the 5th inst., makes a total of 14 furnaces in blast in the Shenango Valley, with prospects of four more being added to the list before the close of next January.

Yeager, Boyer & Co., boiler makers, Peading, have 15 hands out nearly all the

Yeager, Boyer & Co., boiler makers, Reading, have 15 hands out nearly all the time in making repairs to steam boilers in different parts of Berks County.

Adam Johnson & Son, proprietors of the Franklin Iron Works and car shop, Reading, this week commence to build a number of iron ore cars for Clymer & Co., and also a number of cars for the East Penn Iron Co., whose furnaces are located on the line of the East Penn Railroad. Only a few weeks ago a number of cars were built for the East Penn Iron Co. at these works. A great deal of hot blast pipe is also being made at this establishment.

establishm Week before last Messrs. Atkins Bros week before last Messrs. Atkins Bros. started up the Port Carbon Rolling Mill, which they have leased. About 100 men are empleyed. The mill is running to its full capacity on puddled bar of the best quality, which is used in Messrs. Atkins' beam and guide mill at Pottsville.

beam and guide mill at Pottsville.

PITTSBURGH AND VICINITY.
Henry Lloyd, Son & Co., on the 8th, started their guide mill on double turn.
They are erecting 4 more puddling furnaces.
The Beaver Falls Car Works are filling an order of 100 coke cars for the Lake Erie Railroad at the rate of 20 per week.
The cutlery works at Beaver Falls are exceedingly busy just at present on orders. It is thought that it will be necessary to make additions to the scissors department of the works.

Zug & Co., have put their bar mill on double turn, being the first time for several

The Edgar Thomson Steel Co. turned out, in the month of November, more Besse-

out, in the month of November, more Bessemer steel rails than any other rail mill in the country during that month.

The Ward Furnace at Niles, which is about torn down, has been purchased by H. O. Bonnell, of Youngstown, for the Mahoning Valley Iron Company, who will remove it to that place and immediately commence repairs. It is expected to begin blast in February.

The Jefferson Iron Works, at Steubenville, are still behind their orders for nails.

ville, are still behind their orders for nails.
Belfont Furnace, Ironton, went into blast
on Monday, the 8th inst.
The Youngstown News says: "The Hall
Iron Company, operating the Hubbard Rolling Mill, are running the works double turn, filling a large order of nut iron for the Cleveland Nut and Bolt Works.

оню. The Burgess Iron and Steel Works, at outh had a break down of their small mill recently, which caused considerable delay in filling some pressing orders for steel. They have put in a new mill, and the entire works are running full, with heavy orders ahead of their present capacity. They are supplying the Taylor Hoe and Tool Works,

at Ironton, with a fine quality of steel.

The Works of Lambert & Gordon, at Ironton, are running full with several large orders to be filled early, and with a prospect of heavy orders for machinery during the present year. The new Siemens-Martin furnace of the Portsmouth Iron and Steel Company, at

Portsmouth, has been making a very suc-cessful run since the fire was first lighted, and is now turning out 20 tons steel ingots per day in two heats. The company have a good supply of stock, and are preparing for vigorous run of all departments of the works through the next year. They are making homogeneous steel boiler plate and rivets; also agricultural steels and steel tires. The steel department of these works is being put in complete order as rapidly as possible. The puddling and muck bar departments are running full double turn, and the mills full single turn, with overtime. The rolling mills are being put in good condition, and new machinery is being added. They are now turning out muck bar, boiler plates (steel and iron) hoop and sheet iron, spikes, rivets, track bolts, fish bars, T and angle iron and small T-rails. The steel furnace is making steel ingots of various shapes and sizes, suitable to all grades and

After the 1st of January next the capacity of the Alice Furnace, at Ironton, is expected to be 500 tons per week, with the use of one-quarter Quinnemont coke, one-quarter Ash-land (Ky.) coal and half Connellsville coke and all native ore. The furnace has recent-ly received 1000 tons Virginia hematite and 500 tons Crawford ore, to be used as mix-tures. The Ætna, Bellefont and Sarah furnaces are about to agree upon an increase of 15 per cent. in wages. The Blanche, of the Ætna twins, still stands idle, and is not expected to be put in blast during the com-

ing year.
The Tyler Hoe and Tool Works, at Ironton, went into operation recently and ran three days, when they were compelled to shut down, in consequence of the failure of a stock of steel to arrive in time to enable them to continue through the week. They will, however, receive a shipment of steel from the Burgess Iron and Steel Works, at Portsmouth, and the works will run full from that time. The machinery is complete and furnishes a capacity for the manufacture of 75 to 100 dozen Tyler hoes per day. They will, however, turn out only about 50 dozen per day for the first few weeks. The new steam hammer which they are putting up will give them quite an increased capacity.

KENTUCKY.

The Bellefont nail mill and furnaces, at Ashland, are working busily. The Belle-font Nail Works are shipping large quanti-ties of nails South and elsewhere, to fill or-

ders for immediate consumption.

Iron Hill Furnace, after undergoing repairs for three weeks, commenced making iron on Monday, the 8th. This furnace has iron on Monday, the 8th. This furnace has 250 loads of charcoal on hand, with 400 more to come in. The furnace is running on one-half Lambert and one-half Tophill and Limestone iron ore.

stone iron ore.

The Norton Iron Works is running full time in all of its departments. The furnace made her first cast since the accident on Thursday evening, 4th inst. She is now working well and making good iron. The rolling mill and nail mill are running to their utmost capacity. Both the factory and the rolling mill had to suspend operations on Friday and Saturday, the 5th and 6th insts., on account of there being no iron. The factory is turning out about 5000 kegs of nails per week, and they are being shipped nearly as fast as they are packed.

per week, and they are being snipped nearly as fast as they are packed.

The Mt. Savage Furnace is averaging 13½ tons of foundry iron per day, and is preparing for another blast based on 11,000 cords. There are about 1500 tons of iron ore on hand, and more is coming in at \$2.50 per

ton, delivered.

The Ashland Furnace is working finely, The Ashland Furnace is working finely, making an average of 42 tons of No. 1 iron per day. The furnace recently made nearly 47 tons of iron per day for three days. Nearly 1000 tons of iron left their landing on Monday, the 8th inst. The Lexington and Big Sandy Railroad are running two coal trains. The coal trains make three trips per day bringing in about for cases per trips per day, bringing in about 60 cars per

rain per trip.

The rebuilding of the Pennsylvania Furnace, which was lately destroyed by fire, will not commence before spring.

MARYLAND.

It is said that nearly 40 car loads of old rails have arrived at the Cumberland rolling mill within the past two weeks.

VIRGINIA.

There have been some changes made in the management of the Pennsylvania and Virginia Iron and Coal Company. John F. Hartranft is president, R. N. Pool, vice-president, and J. F. Lewis, second vicc-president and general manager.

WEST VIRGINIA.

Messrs. R. T. Harvey & Co., dry-goods merchants, of Huntington, are laying in a stock of heavy and light hardware. They will do a jobbing and retail business.

INDIANA.

The new Albany Steam Forge, of New Albany, was organized in 1869, with but one hammer, and since that time they have been obliged to increase their capacity by the erection of four additional hammers, making five in all. They are at present running day and night to fill orders. The shipments of car axles from this establishment during the present year aggregate up-ward of 20,000, besides steamboat and other shaftings, crank pins, piston rods, and all kinds of forgings from steel ingots. These works have lately purchased 500 tons of scrap iron in England, and arrangements been consummated for further shipments. MINNESOTA.

The Duluth News states that the Duluth Iron Company, recently incorporated, are actively preparing to go into operation with their blast furnace, which was built in the year 1873 and 1874 by a stock company, at year 1873 and 1874 by a stock company, at a cost of some \$160,000, and, with the exception of sufficient kilns, was ready for business in the latter year. The city of Duluth gave \$30,000 in bonds, and Jay Cooke & Co. and E. W. Clark & Co. were heavy stockholders. The property finally fell into the hands of Capt. Ward, of Pittsburgh, from whom the new company have purposed it. The work contempted and purchased it. The work contemplated, and which will be pushed as fast as practicable, is the erection of 35 kilns (in addition to the seven now completed) at an expense of \$20,000. Five of them will be erected beside the others on Rice's Point, and the remaindered by the state of the seven that the seven that the seven has been seven to be mainder at different places on the St. Paul and Duluth road, Barnum being one probable point. The building of their dock, with the necessary dredging, will cost some \$12,000, two parallel lines of dockage, each changes, repairs, &c., while for wood and coal \$25,000 will have to be expended be fore any pig iron is actually turned out. The furnace will go into blast about the 1st of next June, it being impossible to get sufficient ore and limestone here before that date. The ore is to be brought from L'Anse and Marquette in a barge.

\$12,000, two parallel lines of dockage, each Soo feet long, being contemplated, the slip between to be 100 feet wide and dredged to within 100 feet of the stock-house. The work will be piling, to be done this winter, and the 400 feet of present dock will form part of the new. There will be ample room for six vessels to lead or unload here. Some \$8000 will be needed for changes repairs for while for wood and

The Iron Age

Metallurgical Review.

New York, Thursday, December 18, 1879.

. - Publisher and Proprietor. DAVID WILLIAMS Business Manager. JOHN S. KING

RATES OF SUBSCRIPTION

INCLUDING POSTAGE.

TO ALL OTHER COUNTRIES.

PER ANUM, POSTFAID.

Weekly Edition: \$5.00-£1-25 francs-20 marks-12 forins-6 roubles (coin)-25 lire-20 posectos.

Semi-Monthly Edition: \$2.50-10/-1215 francs-10 marks-6 florins-3 roubles (coin)-1215 lire-10 pe-

REMITTANCES should be made by draft, payable to the order of David Williams, on any banking house in the United States or Europe; or, when a draft cannot be obtained, in postage stamps of any country. NEWSDEALERS OR BOOKSELLERS

In any part of the world may obtain The Iron Age through the American News Company, New York, U. S. A.; the Wilmer & Rogers News Company, New York, U. S. A., and London, England: or the San Fran-cisco News Co., San Francisco, California, U. S. A.

RATES OF ADVERTISING.

One square (12 lines, one inch), one insertion, \$2.500 one month, \$7.50; three months, \$15.00; six months \$26.00 one year, \$40.00; payable in advance.

DAVID WILLIAMS, Publisher, 83 Reade Street, New York.

BRITIBH ACENCY.

The publishers of The Ironmonger, 44 Cannon street, oncon, Eugland, will receive orders for subscriptions and advertisements on our regular terms.

CONTENTS.

First Page .- Watts' Three-Cylinder Engine and Boiler. Scientific and Technical. Coating from with Iridescent Copper. Preservation of

Third Page .- Properties of the Alloys of Copper and Tin.

Fifth Page.-The History of Tin Mining in Bohemia and Saxony. A Large Gas Holder. Seventh Page.—Bronzing and Lacquering Metals. The Southern Iron Trade. Protection

Against Lightning. Wooden Money. Ninth Page .- General Summary of the Trade Mark Laws of the States of the United States

Eleventh Page .- General Summary of the Trade Mark Laws of the States of the United States (Concluded). Decision in the Bit Stock Litigation. Industrial Items.

Thirteenth Page .- Industrial Items (Cor

Fourteenth Page .- Duties on Wrought Iro Wrongly Assessed. Proposed Changes in Custom

Fifteenth Page .- Railroad Accidents. Dome tic and Foreign Commerce. American Goods Abroad. Credit which is Considered Discreditable. Pushing Work on the Inter-Oceanic Rail Iron Workers in the Recent Procession Philadelphia.

Seventeenth Page .- Trade Report. Gen eral Hardware Eighteenth Page .- General Hardware (Con-

Nineteenth Page .- Metals. Imports. Ex-Old Metals, Paper Stock, &c. Philadelphia. Pittsburgh.

Twentieth Page,-Pittsburgh (Concluded). n. Boston. St. Louis. Cir Baltimore. Richmond. Our Cincinnati. Letter

Twenty-second Page.-Our English Letter Treenty-third Page. -The Iron Age Direc

Twenty-sixth Page,-New York Wholesale

Twenty.seventh Page .- New York Wholesale

Thirty-first Page.-Philadelphia, Buffalo Chicago and Pittsburgh Hardware and Metal

Thirty-third Page .- Boston and St. Louis Hardware and Metal Prices.

The demand for coke for Eastern con sumption is far in excess of the ability of the West to supply it. It has been found by experience that coke mixed with anthracite largely increases the output of the furnace, in some cases fully so per cent., and though in many places a ton of iron made with such a mixture will cost more than a ton made with anthracite, the profits of a week's or a month's blast, in view of the increased output, will largely exceed those where only authracite is used. This has stimulated the demand, as we have said, far beyond the ability of the evens to produce. It should be noted, however, that but a small proportion of the ovens have been located with a view to supplying this Eastern trade. The demand has been mostly from the West, and this Eastern demand finds the ovens so the product the more advanced shall be the placed that but few of them can ship East duty; and as, on this principle, bar iron is above those better located with reference to of bar iron higher than those which are in-

cure coke for Eastern shipment, and is one reason why such coke is higher nominally than that intended for the West. This extra freight is added to the price at the ovens, and increases the quotation for Eastern coke from 20 to 30 cents per ton.

Duties on Wrought Iron Wrongly

The recent Treasury decision concerning steel blooms has induced investigation into cognate parts of the subject, and this research has led to the discovery that the tariff on "iron in slabs, blooms, loops, or others forms," has long been, and is yet, wrongly interpreted and unwarrantably applied. As it stands in the Revised Stat-utes, the law of the case is as follows:

Bar iron, rolled or hammered, comprising flats not less than one inch or more than six inches wide, nor less than three-eighths of an inch or more than two inches thick; rounds not less than threefourths of an inch nor more than two inches in diameter; and squares not less than three-fourths of an inch nor more than two inches square—one cent per pound. Bar iron, rolled or hammered, comprising flats less than three-eighths of an inch or more than two inches thick, or less than one inchor more than six inches wide; rounds less than three-fourths of an inch or more than two inches in diameter; and squares less than three-fourths Monthly Edition: \$1.25-5/-6/4 francs-5 marks-3 forins-1/4 roubles (coin)-6/4 lire-5 peactos.

of an inch or more than two inches square—one cent and one-half per pound. But all iron in of an inch or more than two inches square—one cent and one-half per pound. But all iron in slabs, blooms, loops, or other forms, less finished than iron in bars, and more advanced than pig iron, except castings, shall be rated as iron in bars, and pay a duty accordingly; and none of the above iron shall pay a less rate of duty than thirty-free per centum ad valorem.

With very trivial modifications of expression, which do not at all change the original meaning, the above provisions are in exactly the same language as when embodied in the act of June 30, 1864. The evident design of the duty of thirty-five per centum ad valorem was that each and every des cription of iron specified in the whole para graph should bear, at the very least, that duty on value; and that, if the dutiable value should advance to the point at which the specific duty of one cent, or of one cent and one-half, per pound should be equiva-lent to less than thirty-five per cent., then, but only then, the ad valorem rate prescribed should be substituted. Plainly the intent of the law was to levy one or other of the two specific duties, as occasion might require, or "all iron in slabs, blooms, loops, or other forms," as stated, except under the contin gency which has been pointed out; for, when it is said "shall be rated as iron in bars, and pay a duty accordingly," the duty referred to must be one or other of the specific duties named in the preceding part the paragraph; else there is no practical application nor descriptive meaning in the word "accordingly." And when it is provided that "none of the above iron shall pay a less rate of duty than thirty-five per centum ad valorem," it is clear that the lowest permissible charge is mentioned, being the unusual or exceptional one; consequently, that a higher charge than this lowest is applicable save in the cases dependent on a given contingency.

This construction of the law is supported by analogous practice in our custom houses. For example, the tariff provides: "Brandy and on other spirits manufactured or distilled from grain or other materials, and not otherwise provided for, two dollars per proof-gallon;" and further: "No brandy, spirits, or other spirituous beverages under first proof shall pay a less rate of duty than fifty per centum ad valorem." Under these provisions and the one that " no lower rate or amount of duty shall be levied, collected and paid, on brandy, spirits, and other spirituous beverages, than that fixed by law for the description of first proof," the usage cf appraisers has been to substitute the ad valorem rate of fifty per cent. for the specific duty of two dollars, whenever the latter would be equivalent to less than the former. Other analogous cases might be instanced, all supporting the view above taken.

ists in assessing the "iron in slabs, blooms. oops, or other forms" at a uniform and invariable rate of thirty-five per cent. ad valorem, without any consideration whatever of the superior applicability of one or other of the specific duties named for bar iron, thus making the lowest allowable charge the constant measure of the proper rate or one which is never to be exceeded. notwithstanding that a higher is frequently equired by the terms of the statute. other unwarrantable construction consists in an unvarying assessment of the specific duties of one cent and one and one-half cents per pound, without any reference at all to the possible fact that these duties may amount to less than the ad valorem rate which the law prescribes shall be the very least imposed.

construction of the le

It is a remarkable fact that the iron rated as bars, and uniformly dutied at the ad valorem rate, has been much higher in average value per ton in nearly every one of the ten fiscal years ending June 30, 1878, than the other two classes of bar iron. This is proof that the kinds rated as bar are higher in grade, quality or texture, generally speaking, than the kinds commercially known as bar, or, what amounts to the same thing, that they are more nearly finished and adapted for use as final manufac tures. As it is an all-pervading design of the tariff that the more advanced without being at a heavy expense for freight dutied higher than pig iron, the better grades this trade. This renders it difficult to prederior, steel higher than bar iron of any

quality, and the better grades of steel higher than the inferior, even analogy alone requires that the iron rated as bar should be assessed at the highest permissible duty which can be applied to bar iron.

These views are fully supported by the comparative exhibits given below, compiled and calculated from the home consumption tables of imports, as annually published by the United States Bureau of Statistics.

TABLE A.

Iron in Slabs, Blooms, Loops or other Forms Rated as Bars, and Dutled either 35 or 31.5 per cent, ad valorem.

| Years ending June 30. | Pounds. | Foreign invoice values. | Average per ton. |
|-----------------------------|-------------|-------------------------------|---------------------|
| 1869* | 32,721 | \$1,439.77 | \$98.56 |
| 1870* | 18,332 | 837.00 | 102.27 |
| 1871* | 22,808 | 030.00 | 91.34 |
| 18720 | | 100,269.77 | 62.28 |
| 1873* | | 16,940.58 | 107.74 |
| 1873+ | 56,143,342 | 1,961,818.05 | 78.27 |
| 18741 | 55,548,238 | 2,080,734.93 | 83.91 |
| 1875* | 9,615,919 | 307,899,60 | 72.76 |
| 1875† | 45,381,482 | 1,639,419.01 | 80,92 |
| 1876* | 38,073,774 | 979,479.80 | 70.61 |
| 1876† | 2,369,194 | 93,629.00 | 88.52 |
| 1877* | 15,053,006 | 474,777.00 | 70.65 |
| 18777 | 840,300 | 30,673.00 | 81.77 |
| 1878* | 5,451,899 | 200,912.00 | 82,55 |
| Total | 225.822.420 | \$7,808,750,51 | \$78.25 |

*Imported under duty of 35 per cent, ad valorem. +Imported under tha 10 per cent, reduction of duty, or 31.5 per cent, ad valorem, provided for in the act of June 6, 1872, and going into effect August 1, 1872.
Note.—The 10 per cent. reduction of duty was repealed by act of March 3, 1875, taking effect from and after its passage.

| Cents per . Foreign invoice values. \$345.724.86 295,425.22 226,258.69 271,138.54 | Average per ton \$50.62 51.35 51.89 |
|--|--|
| Foreign invoice values. \$345,724.86 295,425.22 226,258.69 | Average per ton \$50.62 51.35 51.89 |
| 9,010.98 224,623 71 76,951.52 1,150.00 30,442.15 31,522.34 2,118.00 66,747.00 | 60.73 62.40 74.77 83.00 77.71 73.33 71.53 67.01 70.35 64.74 |
| | 76,951,52 1,150,00 30,442.15 31,522.34 2,118.00 |

* Imported under duty of 1.5 cents per pound. † Imported under the 10 per cent, reduction duty, or 1.35 cents per pound, provided for in a of June 6, 1872, and going into effect August

1872.—The 10 per cent reduction of duty was repealed by act of March 3, 1875, taking effect from and after its passage. TABLE C.

| ** | Cent per | | |
|-----------------|-------------|--------------------|----------|
| Years ending | | Foreign Invoice | Average |
| June 30. | Pounds | Values. | per ton. |
| 1869* | 157,778,837 | \$2,868,612.53 | \$40.73 |
| 1870 | 139,056,256 | 2,731,931.08 | 43.10 |
| 1871* | 173,594,007 | 3,460,984.82 | 44-74 |
| 1872 | 190,645,764 | 4,012,188.63 | 47.14 |
| 1873* | 7,219,376 | 172,663.06 | 53-57 |
| 1873† | 65,358,053 | 1,663,481.01 | 57.08 |
| 1874 | 394,500 | 20,049.00 | 113.84 |
| 1874 | 9,074,043 | 260,800,31 | 64.38 |
| 1875* | 155,991 | 4.330.00 | 68.18 |
| 1875 | #,98x,546 | 136,771.99 | 71.56 |
| 1876* | 5,976,473 | 166,274.00 | 62.32 |
| x876+ | 30,223 | 895.00 | 61.15 |
| 1877* | | 802,725.24 | 55.65 |
| 1878* | 44,908,913 | 988,639.30 | 49,31 |
| Total | 832,188,747 | \$17,316,201.87 | 846.61 |

Imported under duty of one cent per pound. Imported under the 10 per cent per pound.

Imported under the 10 per cent reduction of duty, or nine-tenths of a cent per pound, provided for in the act of June 6, 1872, and going into effect August 1, 1872.

Nors.—The 10 per cent, reduction of duty was repealed by the act of March 3, 1875, taking effect from and after its passage.

Here it appears, taking in each case th average for ten years, that the iron rated as bars was worth \$20, 32 per ton more in the foreign invoices than the bars dutied either 1.5 or 1.35 cents per pound; and \$31.74 per ton more than the bars dutied either on cent or nine-tenths of a cent per pound This higher value necessarily involved a higher grade and quality than the other two classes of product. Such being the plain and easily ascertainable fact, the terms of the law required that the highest allowable duty should have been assessed. Failure to do so has been a neglect of official obligation. involved a considerable loss of revenue to the government, and inflicted damage upon the iron industries of the country.

The following exhibits show the ad valorem rates converted into equivalent specific duties, and the specific duties converted into uivalent ad valorem rates, as levied, i each case :

TABLE D.

Iron in Slabs, Blooms, Loops, or Other Forms Rated as Bars, and Dutied either 35 or 31.5 pe cent ad valoren

| Year ending | | Amounts | Equivi't, specific duty per |
|----------------|-------------|------------|-----------------------------------|
| June 30. | Pounds. | of duty. | pound. |
| 1869 | 32,721 | \$503.92 | \$0.015400 |
| 1870* | 16,332 | 292.95 | .015980 |
| 1871* | 32,808 | 325 50 | .014271 |
| 1872* | 3,930,221 | 38,244.40 | .009731 |
| 1873* | 352,203 | 5,929.22 | .016835 |
| 1873 | 56,143,342 | 617,972.77 | .011007 |
| 1874 | \$5,548,238 | 655,431.68 | .011799 |
| 1875* | 9,615,919 | 107.764.86 | .011207 |
| 1875† | 45,381,489 | 516,417.12 | .011379 |
| 1876® | 31,073,774 | 348,817.03 | .011032 |
| 1876+ | 3,369,194 | 39,493.16 | .012308 |
| 1877* | 15,053,006 | 166,171.95 | .011030 |
| 1877* | 840,300 | 9,662.00 | .011498 |
| 1878* | 5,451.899 | 70,319.20 | 808e to. |
| PR-1-3 | - | A 4 444 | - |

Total. 225,833,439 \$2,561,346.66 \$0.01134 Average ad valorem duty for the ten years, 69-1878, \$32.427 percent. † See references and note under table A.

TABLE E.

| Bar Iron | Dutied 1.5 | or 1.35 Cents per | |
|----------|--------------|-------------------|--------------------|
| Years | Foreign | | Equiva- lent ad |
| ending | invoice | Amounts | val. duty. |
| June 30. | values. | of duty. | Per cent. |
| 869* | \$345,724.86 | \$829,483.06 | 66.377 |
| 870 | 295.425.22 | 193.194.68 | 65.395 |
| 8719 | 226,858.69 | 240,617.89 | 64.801 |
| 873* | 372, 238.54 | 150,005.03 | 55 324 |
| 873* | 9,010.98 | 4.831 77 | 53.843 |
| 8734 | 224,623.73 | 90,934.16 | 40.483 |
| 8744 | 76,951.52 | 28,036.57 | 36.434 |
| 875* | 1,150.00 | 497.26 | 43-235 |
| 875 | 30,442.15 | 12,553.59 | 41.238 |
| 876* | 31,552.34 | 14,809.94 | 46.938 |
| 8764 | 2,118.00 | 955.81 | 45.128 |
| 877* | 66,747.00 | 31,880,55 | 47.763 |
| 878* | 50,004.00 | 85,951.34 | 51.899 |
| lated 6 | . 6 | A | |

Average specific duty per pound for the ten years, 1869-1878, \$0.014766. *† See references and note under Table B.

TABLE F. Bar Iron Dutied One Cent or Nine-tenths of Cent per Pound

| Years ending June 30. 1869*. 1870*. 1871*. 1872*. 1873*. 1873*. 1874*. 1875*. 1875*. 1876*. 1876*. 1876*. 1876*. 1876*. 1876*. 1876*. 1876*. 1876*. 1876*. | Foreign invoice values. \$2,808,612.53 2,731.951.08 3,466.984.82 4,012,188.63 172,663.06 1,663,481.01 20,049.00 260,806.31 4,330.00 1367,71.99 106,274.00 | Amounts of duty. \$1,577,781.37 1,396,562.56 1,735,946.07 1,906,457.64 3,945.02 81,666.46 1,559.91 38,533.96 59,764.73 | Equiva- lent ad val. duty. Per cent 55.002 50.001 47.817 47.812 35.361 119.677 931.313 36.026 \$28.174 35.944 |
|--|---|--|--|
| 1877* | 822,725.24 | 331,148.63 | 40.250 |
| 1878 · | 988,629.20 | 449,089.13 | 45.425 |
| Total | 17,316,291.87 | \$8,243,143.88 | 47.603 |

Average specific duty per pound for ten years, 1860-1878, \$0.0090054.

* † See references and note under Table C.

‡ Should have been 35 per cent. ad valorem, instead of the specific duty of 1 cent per pound.

§ Should have been 31.5 per cent. ad valorem, instead of the specific duty of nine-tenths of a cent per pound.

Table D shows that the rate of 35 per cent. ad valorem was correctly assessed in only three years-that is to say, in 1869 and 1870, and in the case of a small part of the importations in 1873. On those occasions the highest specific duty allowable would have yielded less revenue than the ad valorem rate; hence, it was properly substituted for the specific duty, and the requirements of that time may have given rise to the usage which has been since followed. In all the other years, including the most of 1873, neither the ad valorem rate of 35 per cent. nor that of 31.5 per cent. yielded a specific duty equal to either 1.5 or 1.35 cents per pound, one or other of which was applicable and obligatory, except only in the instances wherein the descriptive list of shapes and sizes, as specified in the law, would not fit the case. On account of the unusually low appear, however, that any such concession is average price per pound, the ad valorem rate of 35 per cent. amounted to less than a specific duty of even one cent per pound. All this misconstruction of the statutory provi-

Table E indicates that the proper duty was ssessed in every case, circumstances havng permitted the false usage to work out a orrect result.

to be given to American industry.

and an abatement of the protection intended

Table F contains three instances of an unwarrantable assessment of duties. These errors came of neglect to substitute the ad valorem rate of 35 per cent., or of 31.5 per cent., under the 10 per cent. reduction, whenever the specific duty of one cent, or of

nine-tenths of a cent, per pound, would not amount to the related ad valorem rate. An examination of the first three tables will show that, while the quantities of bar iron represented in Tables B and C rapidly and largely declined for some years after the close of the fiscal year 1872, the quantities of iron rated as bars, and represented in Table A, as rapidly and largely augmented. Considering how depressed our iron manufacture was in particular, and our industries were in general, during that period, the emarkable increase of the importations for ur home consumption arouses the suspicion that the false method of assessing the duties had something to do with the phenomenon, and that much of the "iron in slabs, blooms pops or other forms" consisted of articles o nearly finished for ultimate use as to require but little additional labor and expense to convert them into articles wholly manufactured; hence the exceptionally high average value per ton of these imports.

The corollary from the above exposé is that ur custom-house officials should forthwith egin to interpret the law of the case according to its true meaning and intent, and to levy the duties required by such interpretation.

Proposed Changes in Customs Regu-

regulations. The essential provisions of this bill were adopted during the last session by the committee, and are not likely to receive further revision. The first section of the bill provides that, in determining the dutiable value when an ad valorem rate of duty is imposed upon any imported merchandise, 'there shall be added to the cost, or to the 'actual wholesale price or general market value at the time of exportation in the principal markets of the country whence the same has been imported into the United States, 5 per cent. in lieu of the costs of transportation, shipment and trans-shipment from the place of growth, production or manufacture, whether by land or water, to the vessel in which shipment is made to the United States, and also in lieu of the commission, brokerage, export duty, and all other actual or usual charges for sack, box or covering of any kind in which such merchandise is contained, and for putting up, packing and transportation for shipment; and the five per cent, so charged shall be distributed pro rata among all parts of such invoice. and every part thereof charged with duties based on value shall be advanced according to its proportion." The object of this provision is to equalize, as nearly as possible, the dutiable valuation of merchandise from different ports, and to simplify work of the appraisers. The second provision of the bill is as follows:

Merchandise of foreign growth or production may be entered in bond in bonded warehouses at the port of original importation or elsewhere in the United States, for manufacture into articles

of which such foreign merchandise shall be the component of chief value, to be exported from the port of original importation, without payment of duty or internal revenue tax, within one year from the date of entry. If the bonded manufactrim the date of chirty. If the bounded manufac-turing warehouse is situated at a port or place other than that of original importation, the mer-chandise shall be, after due entry and appraise-ment, transported in bond to such other port or place, and the articles manufactured therefrom place, and the articles manufactured therefrom returned in bond to the port of importation for export. And every such bonded manufacturing warehouse shall be in charge of one or more store-keepers, who shall hold their appointments from the chief customs officer at the nearest port, and the amount of whose salaries shall be collected mouthly by such chief officer from the owner or lessee of the warehouse. And the proof for the cancellation of bonds given on the exportation of such manufactured articles shall consist of the oath of the master of the exporting vessel and the certificate of the consular officer of the United certificate of the consular officer of the United States at the port where the articles are landed, that such articles have been landed at such foreign port. The necessary regulations for carrying the provisions of this section into effect shall be prescribed by the Secretary of the Treasury: Provided, that where the manufacture is from articles wholly or in part of foreign growth and production, the Secretary of the Treasury may prescribe regulations without the use of a bonded manufacturing warehouse, and there shall be allowed, when exported from the original port of entry or elsewhere, if authorized by the Secretary of the Treasury, on all articles wholly or in part ertificate of the consular officer of the United entry or elsewhere, if authorized by the Secretary of the Treasury, on all articles wholly or in part manufactured of such imported materials on which duties have been paid and not herein otherwise provided for, a drawback equal in amount to the duty paid on such dutiable materials, and no more, to be ascertained under such regulations as shall be prescribed by the Secretary of the Treasury; and all laws in conflict or inconsistent with this section are hereby repealed.

It will be seen that this is a very important of the section are the thinks in a very important of the section are the thinks in a very important of the section are the thinks in a very important of the section are the thinks in a very important of the section are the thinks in a very important of the section are the section of the section are the section are the section are the section of the section are the secti

It will be seen that this is a very important provision indeed, and introduces a new principle into our tariff legislation. It is intended, we presume, to encourage the exportation of American manufactures into which foreign materials enter. It does not demanded or desired by our manufacturing interests. The principle involved is a dangerous one, which promises to be of doubtful benefit. The success of our efforts to secure sions has been a serious loss to the revenue foreign markets for our manufactures has been due quite as much to the excellence of American materials, as to the skill and honesty of American workmanship. Such cencessions, emanating from such a source, should be regarded with suspicion. They eem plausible enough, but when analyzed they will be found to be a blow aimed at some important American industry in this instance, probably, the steel business.

ti bi ti

th in m Tl

pr fr sta ke

in afl

tic

the

act rio da

cai

Mr

to

bro

ful

a v

car

glin ble

fror

yea

true

invo

Ver ishe M

ton

which

stop

feati

to tr

fire

aster

exan

prov

that

is ec

insta

Mr.

613001

crimi

comp

possil

trace

muni

Engli

tors o

The third section seems to be intended chiefly for the accommodation of travelers and immigrants. It provides that "wearing apparel of not to exceed \$300 in value, and other personal effects not to exceed \$500 in value (not merchandise), professional books, implements, instruments, and tools of trade, occupation or employment of persons arriving in the United States, shall be admitted free of duty, but this exemption shall not be construed to include machinery or other articles imported for use in any manufacturing establishment, or for sale and no duty shall be collected upon the importation of wearing apparel or personal effects taken out of and brought back to the United States by the owner thereof.' The fourth section provides "that all works of art and all articles of a scientific or artistic nature or character, or intended for scientific purposes, imported by any State or Territory, or by any municipal educational, scientific or art corporation, intended for the use alone of such corporation as may import it, and not for exhibition or for sale, and books, maps and charts for public libraries, not for exhibition or for sale, shall be admitted free of duty, under such regulations as may be prescribed by the Secretary of the Treas-

The fifth section will be a surprise to many who know Mr. Wood's pronounced freetrade sentiments. It provides as follows:

Advices from Washington indicate that Mr. Wood has perfected, and will press for consideration this winter, a bill making some important changes in the customs the United States than upon those from countries; but upon all goods, wares and merchandise imported from, or the production of, countries (or colonies) which do thus discriminate, there shall be levied, collected and paid an additional duty of ro per cent. upon the rate of duty now provided for.

Mr. Wood is said to favor this clause, in the hope that it will induce foreign governments to open negotiations for reciprocal trade, or at least put the United States on the same basis as the most favored nation. It is not objectionable so long as the friends of protection for domestic industry can hold their ground, and defeat the efforts to draw this country into a reciprocity which to us would mean giving up a substantial advantage and gaining nothing in return. The sixth section relates to the consolida

tion of collection districts, and empowers the Secretary of the Treasury to recom such consolidation when the public interest may seem to demand it, which will be done by proclamation of the President.

If this is substantially all we may expect from the Ways and Means Committee room this winter, we may congratulate ourselves that it is no more mischievous than it is. The second clause of the bill is the only one which seems to aim a serious blow at the principle of protection, and before the friends of home industries give it their approval, they would do well to have its sc purpose clearly defined and definitely limited.

The city of Pittsburgh will soon be happy in the fact that every rolling mill made idle composed wholly of such foreign merchandise, or by the panic of 1873 will be again in operaent of

t, and ected

d the

is in-

ion is

iring

btful

cure

and

Such

urce.

this

elers

aring

tools

ption

nery

any

the

sonal

orks

nded

tion

cor

xhi-

free

mer-n of, nate,

, in

ocal

ates

stry

orts

g in

lida-

end

rest

lone

pect

is.

nds

val.

idle

era-

these idle mills have resumed, until but two were cold, the old Wood's mill, at Saw Mill Run, last operated by Mullins & Mallory, and the old Vesuvius mill, of Lewis, Dalzell Mr. Adams is very severe in his con-& Co. The latter, as previously announced demnation of the methods of car construcin our Industrial Items, has been purchased by John Morehead, the well-known pigmetal broker of that city, and will be at once put in operation, and it is understood that what of the Wood's mill can be run will be put in operation to make muck bar. What s known as the New Ætna Mill, of Spang, Chalfant & Co., was never finished, and is, of course, idle and not included. This means not simply that Pittburgh will now make as of the mills were idle, the make of rolled iron to this, some of the mills have increased the number of furnaces and trains of rolls. Alshow in 1880 a very great increase in tonnage of iron manufactured.

· Railroad Accidents.

When a man of large intelligence, who has devoted years to the careful study of a subject, writes a book which is in some sense a monograph on that subject, it is pretty sure to be of interest and value. Such a book we have in Mr. Charles Francis Adams, Jr.'s "Notes on Railroad Acci-dents," which merits the careful attention of all who are interested in the management of our great lines of overland transportation. In publishing what he modestly calls "Notes," gathered during ten years of service as a railroad cammissioner of Massa chusetts, Mr. Adams has had a highly commendable object in view. He has undertaken to correct many wrong opinions as to the causes of railroad accidents and the best means of preventing them. In continuing what might be termed a popular agitation of the subject, he has very correctly begun by presenting the facts in an attractive and simple form. It is an astonishing, and by no means an encouraging, fact that the public in general are very indifferently informed in regard to the exigencies of modern railroad transportation and its risks. The glaring ignorance of both displayed by public men, as well as by the newspaper press, is attested by the crude suggestions freely offered whenever a great disaster startles the world. Mr. Adams has no doubt keenly felt this want, as he refers repeatedly, in strong terms, to the result of this state of affairs as exhibited by unwise and impractical laws on the statute books of many of our States. Going to the root of the evil he attempts to enlighten the public, while at the same time he makes a vigorous effort to convince railroad managers and directors of the necessity of prompt and harmonious action in examining and adopting meritorious improvements, designed to lessen the dangers of travel and render the railroad carriage of an express train in motion what Mr. Bright claims it to be-the safest place

The long list of ghastly catastrophes which recklessness, neglect and accident has brought about in connection with railways, was singularly enough opened on the eventful 15th of September, 1830, the inauguration day of the first railway, the Manchester and Liverpool, when Mr. William Huskisson, a very prominent man in politics at that was killed while in conversation with the Duke of Wellington. Stephenson, in carrying him where medical attendance could be obtained, 17 miles, in 25 minutes, revealed to his frightened contemporaries a glimpse of what steam carriages were capable of accomplishing, and the long exemption from accidents, covering a period of 11 years, soon caused people to forget the terrible warning of Mr. Huskisson's tragic death. The precautions taken were, it is true, primitive and in some cases comical, involving as they did the running of inde-pendent pilot engines in advance of all night passenger trains. The first terrible accident which did much to retard progress of railroad construction in France was that of Versailles, when more than 50 persons per-

Mr. Adams briefly recites the details of ton disaster of 1874, in England, both of which were due to the utter impossibility to stop the motion of the train quickly enough. The former accident was aggravated by a feature which still constitutes a great danger to travelers on American roads, the risk of fire caused by the upsetting of the stoves used to heat the cars. The Wollaston disaster is cited by Mr. Adams as a conspicuous example, revealing a weak point in an approved appliance for stopping the momentum of a train, and the unsoundness of the idea that the strong American car construction resistance to train momentum. As an instance of stolid British conservatism, Mr. Adams relates a number of shocking encounters between passengers and maniacs, possibility of such occurrences was directly munication between the occupants of the English compartment cars and the conducthe simple device of the bell cord. The Station, London, into which 550 trains tend to increase imports."

Within the past two years one by one author, however, warns Americans not to which he claims has failed to devise means to banish the stove from our railway cars.

tion previous to the introduction of the Miller platform and buffer, which he considers one of the "four or five really noticeable advances which have of late years been made in railroad appliances." He cites the opposition to its introduction as an example of the "objecting capacity of the typical practical mechanic, whose conceit, as a rule, is measured by his ignorance, while his stupidity is unequaled save by his obstinacy. much iron as ever before, but a large per-centage more. During the panic the mill-defects in railway management or equipowners of the Smoky City learned the secret ment must be emphasized by the loss of life, of increasing output, and, though a number Mr. Adams relates the sad story of the Camphill disaster, where a regular train hundreds of children. Although primarily together it looks as though Pittsburgh will accident must really be attributed to the heavy junction or terminal train movement recklessness of men who operated a singlethe telegraph in connection with its train times caused terrible calamities like that at Thorpe, in England, in 1874, and a similar one at Tyrone, Iowa, in 1875, where more serious results were averted by the strong aster in 1868 proved the danger of lax disof oil cars, which also in the case of the New the killed and the wounded.

A class of accidents which is much more known in America than in England is that of bridge disasters, which have led to some of the most extraordinary legislative regulations, and pointedly show how much inferior practice of examining accidents before an incapable jury, compared to the British method of scientific investigations by trained experts. The Norwalk, Conn., drawbridge disaster, in May, 1853, by which 46 people were killed, led to the notorious Connecticut law, which provides that every train must come to a dead standstill before entering upon any bridge in which there is a draw, a crude, but adequate remedy where traffic is light, but entirely impracticable where roads are crowded. While trains on American roads continue to run into open draws, no one single case has been known to occur on English roads since 1870, because the interlocking of all draws in railroad bridges with a proper system of signals, is made compulsory by law. But while accidents at draws have been comparatively rare, bridge accidents are certainly the worst to which railway travel is exposed. This is shown by the terrible Ashtabula and Tariffville disasters. The first bridge was old, faulty in its construction, and had given indications of weakness repeatedly, which, though they had been distinct, had not been regarded. The Tariffville bridge was of wood, and though it broke down in a way quite similar to the Ashtabula bridge, the disaster was not, so far as the evidence went, due to weakness or overloading, but arose, most probably, from the derailment of a locomotive. It was caused by the absence of simple precautions which, as a recent accident of a similar nature has shown, are still very widely disregarded. Mr. Adams urges that all that is necessary is to make the ties and flooring of all bridges between the tracks and on either side of them sufficiently strong to sus tain the whole weght of a train off the track and in motion, while a third rail or strong truss of wood, securely fastened, should be laid between the rails throughout the entire length of the bridge and its approaches. He strongly advocates legislative enactments looking to an enforced adoption of this plan. As regards the best method of car couplings,

the conclusion arrived at by the greater num ber of railroad mechanics in favor of the strongest and the closest is probably sound, although the Des Jardines disaster, in Canada, proved that there are two sides to this question also. Mr. Adams devotes a whole chapter to a full account of the Revere disaster in 1871, which was caused by the utter inability of the Eastern Railroad of Massachusetts the "Angola horror," in 1867, and the Ship- to cope with an extraordinary rush of business with the aid of its antiquated appliances and systems. Terrible as the lesson was, it has had a very salutary effect upon the man agement of New England roads, although popular indignation at the time carried many far beyond the bounds of reason in their denunciations and their suggestions of remedies. It led to a universal use of the telegraph for the dispatching and the regulation of the movements of trains. The Revere accident was a rear-end collision, a class which is by far more frequent in America than in England. This fact Mr. Adams atis equal to every emergency as regards tributes to the universal use in the latter country of the block system. While admitting the exceptional qualities of the average American locomotive engineer whose facility in adapting himself to criminals or drunkards traveling in the same circumstances and in taking care of himcompartment. Although in every case the self and the property and lives in his charge, is wonderful, the author points traced to the absence of any means of com- out that the exigencies of growing traffic will compel a universal adoption of the block system, which has been employed tors or engineers, English railroad managers with great success in England. He notes

enter, and which as many leave in 18 hours pride themselves on their own ingenuity. The drawbacks of the block system are very great, it is true; it is clumsy and complicated, and necessitates the employment of a large number of skilled men, and therefore it is probable that the American block system of the future will be essentially different from the present English system. Efforts in America have been directed toward the solution of the question of devising an automatic system which should provide against rear collisions, highway grade crossings and tracks broken at drawbridges or at switches. A marked degree of perfection has been attained in this direction by the Hall Electric and the Union Safety Signal Company, of which the former is the older and the most thoroughly elaborated. Mr. Adams is very emphatic in his condemnation of the pleaoften advanced in opposition to these and similar appliances, that they are too expenin 1878 exceeded that of 1874. In addition collided with an excursion train carrying sive or too complicated. He urges the necessity of interlocking signals and switches due to the negligence of the conductors, the as an indispensable adjunct to any really and for drawbridges and level railroad cross track road without the systematic use of ings. Its general introduction into the American railroad system is a question of movements. On the other hand, the unskill- the value of land and the concentration of ful or negligent use of the wires has some- traffic, which is as yet only imperfectly understood.

Mr. Adams discusses at considerable length the merits and the scope of the Westinghouse brake, detailing the successive construction of the cars. The Abergele dis- steps by which it was brought to its present excellence, and citing a number of cases in cipline, and the recklessness of stopping which its efficiency was abundantly demonstrated and dent was terribly aggravated by the burning very interesting account of what is aptly called the "battle of the brakes," now be Hamburg catastrophe, swelled the long list of ing so fiercely waged abroad, and notably in England. The main contestants are the Westinghouse and the Smith, both American vacuum brakes. The former carries with it the weight of scientific and official authority, while the latter finds its greatest number of adherents among railroad men, who -almost worthless indeed-is the American admire it on account of its simplicity and

cheapness. The remaining chapters of Mr. Adams' work are filled with statistical data in regard to railway accidents, revealing, as they do, the great lack of reliable and authentic figures in this country. Taken as a whole, the book is admirably adapted to its purpose, that of creating and directing public opinion. It is popular throughout, and is very impressive in its descriptions as well as in its arguments, and though perhaps Mr. Adams is sometimes carried away by his righteous indignation or by an exaggerated opinion of certain devices or appliances, his book is likely to do much good and deserves a wide circulation.

Domestic and Foreign Commerce.

The report of Mr. Jos. Nimmo, Jr., chief of the Bureau of Statistics, on the internal commerce of the United States, contains one paragraph that we commend to the attention of those who claim that the most important subject now before the American people is revenue reform, meaning thereby a reduction of the tariff, in order that articles of foreign production may be imported in larger quantities. The passage referred to is as follows: "It is impossible to state "accurately the total value of the internal commerce of the country. Measured by the value of the commodities transported it is many times greater than our foreign commerce. The value of commodities transported on the Pennsylvania Railroad alone, between Philadelphia and Pittsburgh, during a single year, has exceeded the value of the imports into the United States from foreign countries.

If this is true, and there can be no ques-tion about it, of the two the most important and interesting question before our people to-day is the internal, and not the foreign of this question of internal transportation is but poorly realized. It is the only dead December 27th, in the steamer City of Alexandria, to commence his work. On his of all kinds, and in the near future its regu lation and the cheapening of its cost will be prominent topics of discussion and thought

paragraph from Mr. Nimmo's report. With the exception of a very small fraction, this internal commerce is of goods manufactured or produced in the United States by our own people. The imports into the United States are the products of the labor of other coun tries. Which to us is the more important subject-the cheapening of internal transportation, or the reduction of duties that goods produced abroad may be imported in greater quantities ?

American Goods Abroad.

The New York Tribune, of December 13th,

our manufacturers are all feeling well. They are very much pressed by orders, and at better prices than for five years past. I am afraid, however, that the advance in prices of some lines of goods will seriously interfere with our export trade, and will greatly. and directors persistently refused to adopt the enormous traffic of the Cannon Street fere with our export trade, and will greatly

"What is the immediate danger?"

advantage over American manufacturers in the foreign markets, and will tend to break

Mr. Rollins settled in London in 1862. In the most energetic manner he has worked early and late to push the sale of American manufactures in European markets, and, as he well says, "has done more missionary he well says, "has done more missionar work in this direction than any other Amer ican abroad." He declared that while there was a great future here at home and while Europe must have our cotton, petroleum and provisions, there was not much chance of successfully contesting with foreign manufacturers unless we can compete with them in price. Mr. Rollins is now building a large and handsome warehouse close to the riv and nandsome warehouse close to the river Thames, to be occupied as sample rooms for American manufactures. Three floors of this are to be used by Fairbanks & Co. for the exhibition and sale of their scales. The warehouse is within five minutes' walk of the Bank of England and the Royal Ex-change. It fronts on Upper Thames street, change. It fronts on Upper Thames street, while the rear abuts on the river, so that goods can be landed directly from the ship and directly from the warehouse.

Mr. Rollins was decidedly of the opinion that the revival of business in this country would be greatly expanded by emigration from the overstocked labor markets of

Credit which is Considered Discredit-

Sheffield has two newspapers which look very much alike, and we seem to have made the mistake of crediting to the *Independent* an editorial which probably appeared in the Telegraph. We judge so, at least, from the Telegraph. We judge so, at least, from the following letter received since our last issue:

following letter received since our last issue:

SHEFFIELD, Nov. 27, 1879.

To the Editor of the Iron Age, New York:
—SIR: I observe that in your issue of the 13th November you quote a "remarkable editorial" on "What Free Trade is Doing for England," and you attribute it to the Sheffield Independent, of October II. Your description of the article as "remarkable" is very apt, but it would be still more "remarkable" if a misrepresentation of facts so wild, and a promulgation of theories so erroneously extravagant, had ever appeared in neously extravagant, had ever appeared in a journal which, like the *Independent*, has ever been and still is a firm and unswerving champion of free trade. I shall be much obliged if you will, by publishing this letter in your next issue, give me the opportunity of saying that no such article has ever disfigured the columns of the Sheffield Indengured the columns of the Shemiela Inde-pendent. I am not, I think, unreasonable in asking this, since such of your readers as know anything of the Independent must have been forced to the conclusion that hopeless insanity could alone account for the publi-cation in it of the article you print. I am, sir, your obedient servant. sir, your obedient servant,

Editor Sheffield Independent.

We do not think the Independent would have had anything to be ashamed of if it had printed the article in question, which was remarkable only for the frankness of its confession. However, we regret the accident of crediting the wrong paper, and the unintentional injustice which the mistake did to both papers.

Pushing Work on the Inter-Oceanic Railway.

Mr. Learned and associates, who hold an important concession from the Mexican Government for the construction of a rail-way across the Isthmus of Tehuantepec, way across the Isthmus of Tehuantepec, from the Atlantic to the Pacific Ocean, are enthusiastic in pushing their work. Competent engineers are being appointed for all responsible positions, and supplies of materials, implements, &c., are being forwarded with dispatch. The latest movement is the appointment of Mr. Van Brocklin, late which engineer of the Metropolitan Elevated. and this gentleman will leave New York
December 27th, in the steamer City of
Alexandria, to commence his work. On his
arrival two or three strong working parties
will be organized, taking up different points
along the line of the road. He will be in
communication with a local engineer, appointed by the Mexican Government, who
have signified a readiness to co-operate in
any way that will further the to-day is the internal, and not the foreign Railway, to accept a similar position in the commerce of the country. The importance Tehuantepec Inter-ocean Railway Company, among our statesmen and engineers.

There is another thought that forces itself upon the attention of the reader of this of connecting the two oceans. Mr. George Tyng, of New York, is the general agent of the company, stationed at the mouth of the Goatzocoalcos river, which forms the Gulf

terminus of the route.

Last Saturday, 13th inst., a party of engineers, headed by Mr. Van Brocklin, a brother of the chief engineer, left this city in the steamer City of New York, to commence operations at the mouth of the Goatzocoalcos River, leveling and grading Goatzocoalcos faver, leveling and grading preparatory to laying the rails. Among their appliances are a couple of Lasher's grinders, purchased in Cincinnati. They are worked by horse power, and on an ordinary road will advance at the rate of

two miles a day.

Among other departures the bark Ephraim The New York Tribune, of December 13th, prints the following:

John G. Rollins, head of the American house of John G. Rollins & Co., American merchants in Lendon, England, who has been in this country for the last six weeks, sailed on his return on Thursday. During his stay in this country Mr. Rollins' time has been spont among manufacturers, his trips extending from Maine to the Mississippi. In a conversation with a reporter of the Tribune he said: "I found wherever I went that our manufacturers are all feeling well. They

"What is the immediate danger?"
"That the increase in the price of American manufactured goods will give the German, English and French manufacturers an advantage over American manufacturers in the foreign markets and will tried to be able to the foreign markets and will tried to be able to the foreign markets and will tried to be able to the foreign markets and will tried to be able to the foreign markets and will tried to be able to the foreign markets and will tried to be able to the foreign markets and will tried to be able to the foreign markets and will tried to be able to the foreign markets. the foreign markets, and will tend to break down the foothold which they have obtained. The competition has been very great, and it has been only by the utmost perseverance on the part of our merchants and agents abroad, joined to the superior quality of the articles offered for sale, that they have been able to compete successfully with foreign manufacturers in their own markets."

Mr. Rollins settled in London in 1866. In the foreign more of the concession. The company contend that no ship canal can ever be built to compete successfully, on account of the enormous cost in comparison, the American letter was written, in accordance with the enormous cost in comparison, the American Isthmus being pronounced feasible by competent engineers. It is provided at both termini with good harbors, and all the improved appliances will be at command for the speedy and economical trans-shipment

Iron Workers in the Recent Procession at Philadelphia.

In the reports of the great procession in Philadelphia, on Tuesday, in honor of Gen. Grant, we find the following mention of es-

tablishments known to our readers:

Marshal, Hamilton Disston; Aids, Isaac A. Marshal, riamilton Dission; Alox, Israe A. Sheppard, Geo. Barnett, Thomas Devlin, F. O. Hanson, George W. Myers, George Pikington, Thomas W. South and Robert Johnson. Keystone Saw Works (Henry Dission & Sons), employees led the division, under the marshalship of Horace C. Disston.

They numbered 900. At the head of the column was a large truck, drawn by five powerful iron gray horses, in tandem, dressed with red, white and blue cockades. On the truck was an enormous circular saw, which revolved as the vehicle proceeded, and to the rear and a little less in hight were two other like, but smaller saws; on the sides of the truck were long saws, bearing in large letters the word "Welcome."

Then came the Pioneer Corps, Jonathan Marsden, captain, and Thomas Fleming, aid, with the Stephen Girard band. Following these were men bearing guidens and flags and wearing purple silk badges; boys drawing an old-fashioned fire hose carriage, the cylinder of which was formed of large cir-cular saws; the Elm Tree and Elm Tree, Jr., Pioneer Corps. Throughout the line were interspersed handsome silk banners, flags and various devices. On large structures, some in pyramidal form, others in terraces placed upon wagons and trucks drawn by placed upon wagons and trucks drawn by from four to six horses each, were displayed the tools and manufactures of each department of the works. These vehicles were handsomely draped in bunting and dressed with flags, and the horses were gaily caparisoned. One large wagon contained a steam engine with steam up. The file and wood-work departments were accompanied by the Washington Cornet Rand of Helynes. by the Washington Cornet Band, of Holmes-burg. In this line were also a large number

of barouches, the occupants wearing badges. Second in the line of this division were the employees of the Philadelphia Hardware and Malleable Iron Works (Carr, Crawley & Devliu), 200 in number, with the Great Western band, George Dougherty, marshal. They had a large two-horse wagon, in which were displayed specimens of the firm's manufactures. The wagon was trimmed and decorated with bunting and flags, and bore displayed "Welcome to the City of Brotherly Love," surrounding a portrait of Gen.

Then followed employees of the Excelsion Stove Works (Isaac A. Sheppard & Co.) with the Resolute Fife and Drum Corps They numbered 150. In their line was a Pioneer Corps, George Barford, captain, and a large wagon dressed with bunting and containing a nickel-plated stove and range, and a lad representing Young America.

and a lad representing Young America. The men wore badges, &c.
The employees of the Black Diamond File Works (G. & H. Barnett) followed with 130 men, Samuel Carver, marshal. With them was a pioneer corps under command of Frank Stemler, and two large and handsomely decorated wagons. In one of them was an immense file, weighing 250 pounds. This wagon was filled with small boys appropriately dressed. In the other wagon an employee was exhibiting the method of working in the manufacture of files.
The tin roofers and galvanized-iron workers of Austin, Obdyke & Co., 75 in number, followed with a fife-and-drum corps of employees. The men wore badges and carried specimens of their work, and in one large

handsome badges and had with them two large decorated wagons in one of which, drawn by six horses, was a finished safe, and in the other a man was at work finish

ng a safe. ng a sate.

F. O. Hanson & Co., iron railing makers,
urned out 30 men under command of Wm.
Hanson. They had with them a wagon de-Hanson. orated with evergreens and bunting, &c.

Riehle Bros, had in line a large wagon drawn by four unusually fine h the wagon was exhibited a scale beam 15 feet in length. It is called the General Grant, was made for the Russian government and is capable of weighing 120,000

Lovegrove & Co. had a steam engine in a ecorated wagon.

Wm. Kaufman, tin and gravel roofer, ad a wagon profusely decorated with

bunting.
R. S. Menamin (machine works) had a wagon decorated with flags and bunting

hibited a forge in operation, &c., in a wagon dressed in flags, &c.

Adams & Shay, wire-work jobbers, had a

wagon dressed in evergreens and bunting, and exhibited a Christmas garden, with metal railings, &c.

supplies.

From the Mexican capital the most favorable accounts are received. Mr. F. D.

Henry Crawshay, the last surviving son of Wm. Crawshay, the iron king of Wales, died recently at the age of 75 years.

Special Notices.

Valuable Mineral Property

Valuable Mineral Property
For Sale.

Situated upon the New Jersey Midland Railroad,
near the village of Hamburg, Sussex County, N.
J., adjoining the land of Moses Taylor, Esq., and
about half a mile from the mineral property of
the New Jersey Zinc Company, and in a line of the
mineral of Moses Taylor, Esq., and the Franklinite Iron Company. A prolongation of the veins
of zinc and Franklinite of these companies would
run about half a mile through the property. The
farm is one of the most valuable in Sussex County,
containing 213 acres, and has a grist mill and
other buildings upon it, the present rental of
which is equivalent to 3 per cent upon the price
asked, viz. \$40,000.

ther bullings the control of the con

ELIZABETHPORT ROLLING MILL, Elizabethport, N. J.,

Common and Refined BAR IRON.

Fish Plates, Spikes, &c.

Address.

DANIEL W. RICHARDS & CO.,

Importers of and Dealers in Scrap Iron and Metals,

88 to 96 Mangin St., New York. Foundry and Machine Works For Sale,

TO CLOSE COPARTNERSHIP. Located in Columbia, Lancaster County,

Pa., on a Main Street.

Ground 220 ft. front, 510 ft. deep. Machine Shop, 60x40, with Pattern Shop in second story; Smith Shop, 34x58, with Boiler House adjoining; Foundry, 73x53, with 2 cranes and 3-pot Brass Furnaces. All brick buildings with slate roofs, and rebuilt 18y2. Also, frame Pattern Warehouse, sinte roof. Patterns, Tools and Fixtures for Blast Furnace, Rolling Mill and general heavy work. Works are near several railroad depots, with siding alongside, and are doing a good business. Will sell out entire works, or sell ground and buildings with the steam power for other purposes.

PERROTTET & HOYT. Proprietors. Pa., on a Main Street.

FOR SALE.

A 1000 Pound Steam Hammer.

A BOILER PLATE SHEAR.

Both Tools by Ferris & Miles, of Philadelphia Neither one has ever been in use,

THE JOHN A. ROEBLING'S SONS CO., Trenton, N. J.

FOR SALE.

The entire Canadian right of Kenyon's Adjustable Chain Pump Hucket, a superfor and substantial article. Can be accurately adjusted to fit the tube, and enlarged to take up the wear, so that the pumps can be kept in good working order. United States County and State rights for sale. Address.

THOMAS KENYON, Patentee,
BOX 103, Hamilton, Ohio, U. S. A.

FOR SALE OR RENT. The Rolling Mili Property at Topeka, Kansas, known s the Topeka Rolling Mili, for rerolling old rails, apacity about fifty tons per day. Machinery of tost approved kind and in good order, having been abut about six months. Parties desiring to lesse buy the property can do either on favorable terms. For particulars address.

ROYAL M. BASSETT,

WANTED.

To purchase a half interest in some well established and paying Hardware and Housefurnishing business in some growing town west of Chicago, and with an elderly gentleman preferred. Or will accept a good situation as receiving, shipping or to take charge of an order department in a whole-sale house. Have had several years' experience, and can furnish Ar references.

Please address,

Care Letter Carrier No. 26, Buffalo, N. Y.

ANTHRACITE BLAST FURNACE For Sale or Lease.

Situate on the Susquehanna & Schuylkill R. R., near Pine Grove, Schuylkill Co. Capacity, 120 tons per week. With 140 scres of good Land, 20 Houses, Barns, Stables, &c. A branch of the Swatara Creek runs close to the Furnace. 29 miles from Cornwall Ore Bank, 18 miles from limestone, and 10 from coal.

POTTSVILLE, PA., October 9, 1879.

FOR SALE, VERY LOW.

Two Cranes, 24 feet high, 30 feet sweep; two do., 18 feet high, 30 feet sweep; four small do.; 30-horse power Engine; Cupola, 45 inches in diam-eter; Charcoal Crusher; large Blower; heavy Truck, medium Screw Press; small Boiler, &c. R. FRAZIER, Agt., Bordentown, N. J.

FOR SALE.

Thorne & DeHaven Postable Drill.

Bement Car Wheel Borer, 48-lach.
36-inch Radial Drill, A. Box & Co.
36-in x 36-in x

10 MANUFACTURERS AND CAPITALISTS

FLOWER PINS.

PATENT FOR SALE.

J. H. PLUMMER.

1276 Pacific Street, Brooklyn, N. Y.

For Sale Immediately, A Valuable Patent Improved Horse

Shoe Machine.

Shoe Machine.

This machine and patent will be sold at a reasonable figure; the Patentee and proprietor not having sufficient means to carry on the business of manufacturing. For full particulars address address (Bernantown, Phila., Pa. 126 Maplewood Ave., Germantown, Phila., Pa. CERAP IRON and Old Raiis supplied for cash, in quantities and of qualities to suit the American markets, by A. NORRINGTON & CO., 34 Great St. Helens, London, Ergland. First-class references given.

Special Notices.

To Close Partnership.

We will sell the following property at private ale to close the partnership of D. Hillman & Sons

THE TENNESSEE ROLLING MILL, situated on Cumberland River, Lyon County, Ken tucky, ten miles from Paducah and Elizabethtown Railroad. This mill consists of the following marking

Railroad.
This mill consists of the following machinery:
Plate Mill, 05x26; 2 High Rolls, driven by 60x30
engine; 1 Steam Hammer—Condee's—5 ton and
4 foot stroke
Plate and Sheet Mill, 76x22.
16-in. Bar Mill, train complete.
19-in. Bar and Rod Mill; 18-in. Bar and Hoop Mill.
9 Puddling Furnaces; 13 Knobbling Fires.
15 Boilers, 12 engines, large and small; Muck Train,
Barden Squeezer, &c.
1 Run-out Fire, 7 Heating Furnaces, 2 Annealing
Furnaces.

Furnaces.

Pair Shears, r Steam Saw, r Testing Machine,
Railroad Tracks and Scales, full sets of all Tools
needed, Store House, Office, Warehouse and
many workmen Houses, with 6500 acres land.

The TRIGG FURNACE, In Trigg County, Kentucky.

In Trigg County, Kentucky.

A first-class Furnace, new, built in 1872. Charcoal furnace—48 feet high, 12 foot bosh; 60 pipe; Davis Hot Blast; Four Boilers; Horizontal Engine, 6-foot stroke, 20 in, diameter; 3 Blowing Cylinders, 6 feet by 36 inches diam. Furnace arranged for Hot or Cold Blast. Pig has great reputation. With 5500 acres of land. TERMS OF SALE. -1-4 cash. Balance on 1, 2 and 3 years. Lien retained to secure purchase

y. property is reached by Paducah & Elizabeth R. R., Eddyville, Ky., Station, or via Cumber-liver. Correspondence solicited. Parties will wn the property at any time.

ace or Mill, either, will be seld separately, if

lesired.

The Boiler Plate and other Irons made at these works have a national reputation, being known as Tennessee Iron. Address

D. HILLMAN & SONS,

Tennessee Rolling Works, Lyon Co., Kentucky.

For Sale,

THE ROUGH AND READY HOT BLAST CHARCOAL FURNACE

situated in one of the healthiest regions of Tennessee, with all its modern improvements, including a 30 horse-power engine, and two 40 feet boilers. The turnace is in close proximity to inexhaustible supplies of rich brown hematite ore and limestone, and the rail and river shipping facilities are excellent. Iron can be manufactured for not exceeding \$18.00 per ton, and put into market within 24 hours. Furnace can be put into market within 24 hours. Furnace can be put into blast without much expense for repairs. Included in the property are 9000 acres of fine timber land, (including 1300 acres which are improved and under cultivation) a Saw and Griss mill with a 12 horse-power engine flue boiler, Carpenter and Blacksmith shops. Stables and Cribs, Coal, Engine, Cinder, Casting, Tool, Store and Ware, and about 60 Dwelling Houses. It is the wish of the undersigned to sell only the whole of this property, which can be bought on reasonable and liberal terms. For further particulars

D. THEOBALD, Youngstown, Ohio. A. GUCKENHEIMER & BRO. 93 First Avenue, Pittsburg, Pa.

PRIVATE SALE

OF A VALUABLE

Rolling Mill Property.

The undersigned offer at private sale that certain property known as the "Codorus Steel Works." formerly the property of the York County Iron Company, situated on the Northern Central Railway and the Frederick Division of the Pennsylvania Railroad, at York, Pa. The tract contains about seven acres of ground, with a stream of water passing the same, and on which is erected a frame Iron roof Rolling Mill Building, about too x zoo feet.

The Machinery consists in part of the following, to wif:

1 Steam Engine, 15 H. P., with two pairs of Shears. 1 Steam Engine, about 40 H. P., with two Blowin linders.

I Steam Engine, about 40 ft. P., with two blowing Cylinders. I Steam Engine, about 40 ft. P., with Duplicate Cylinder. It Pudding and Heating Furnaces. I Frain Robert Steam Hammer. I Train Robert Steam Hammer Hamm

FARMERS' FIRE INSURANCE CO. York, Pennsylvania.

For Sale or Lease. FOUNDRY NEW YORK CITY.

The plot of ground measures 275 ft. frontage by 100 feet deep. It has a splendid Foundry, 60x165 feet, with cupolas, cranes, &c. If leased, additional buildings to any extent will be erected to accommodate any kind of manufacturing business.

Apply to WM. J. FRYER, Jr.,

Ætna Iron Works, 104 Goerck Street.

Bissell & Welles. Wholesale Hardware Auctioneers.

83 Chambers and 65 Reade Sts., N. Y. Sales held weekly for the trade. Consignments olicited. We refer to the leading Manufacturers

Wanted to Purchase.

Iron Ore Mill, with Revolving Table. Send description and price to

> S. B. LOWE. Chattanooga, Tenn.

Wanted Immediately.

Ten new or second-hand SCREWS, from 3% to 4 inches in diameter, about 12 feet long. State J. R. MITCHELL & CO.,

WANTED.

A traveling salesman to represent in the West a Chicago Heavy Hardware house. He must be a representative man, possessing character and ability that will fit him for canvassing the best trade. None but a man of large experience and good standing can fill the place. To the person wanted a permanent position and good salary will be given. Address, with references, CHICAGO, Office of The Iron Age, 83 Reade St., New York.

WANTED.—A Roll Turner wishes a situa-tion; would take the management of a mer-chant mill in connection with the roll turning. Address
Office of The Iron Age, 82 Reade St., New York.

Special Notices.

FOR SALE, SECOND-HAND

and NEW TOOLS FOR SALE LOW.

December List No. 2.

Miscellaneous Second-Hand Tools.

All in Good Order, and will be sold very low.

Two Engine Lathes, 20 in. swing x 7½ ft. bed.

Two Engine Lathes, 24 in. swing x 8 ft. bed.

One Engine Lathe, 18 in. swing x 12 ft. bed.

One Engine Lathe, 18 in. swing x 12 ft. bed.

One Engine Lathe, 18 in. swing x 12 ft. bed.

One Engine Lathe, 18 in. swing x 12 ft. bed.

One Engine Lathe, 18 in. swing x 15 ft. bed.

One Engine Lathe, 18 in. swing x 15 ft. bed.

One Engine Lathe, 18 in. swing x 15 ft. bed.

One Engine Lathe, 18 in. swing x 15 ft. bed.

One Engine Lathe, 18 in. swing x 15 ft. bed.

One Engine Lathes, 18 in. swing x 15 ft. bed.

One Horizontal Boring Lathe.

Six Turning Lathes, 14 in. swing x 15 ft. bed.

Two Wood-Turning Lathes.

One Bement Double Pulley Lathe.

One Planer, 24 in. x 5 ft.

One Planer, 25 in. x 5 ft.

One Planer, 25 in. x 5 ft.

One Planer, 26 in. x 5 ft.

One Planer, 27 in. x 56 in. x 24 ft.

Two Planers, 28 in. x 5 ft.

One Planer, 24 in. x 5 ft.

One Planer, 24 in. x 5 ft.

One Planer, 25 in. x 5 ft.

One Planer, 24 in. x 5 ft.

One Planer, 25 in. x 5 ft.

One Planer, 24 in. x 5 ft.

One Planer, 25 in. x 5 ft.

One Plane All in Good Order, and will be sold very low

NEW TOOLS, Very Low. Shaping Machine, 14 in. stroke, Wood &

One Snaping intentions, who is a Lighte.

Five No. 2 Bolt Cutters, Wood & Lighte.

One No. 1 Bolt Cutter, with center, Wood & Lighte.

Three No. 2 Bolt Cutters, with center, Wood & Lighte.

One Planer, 32 in. x 8 ft., New Haven.

One Upright Drill, 38 in. New Haven.

Please specify which of the above tools you wanted we will forward all particulars.

A Woodruff & Beach ROLLING MILL PROPERTY Beam Engine,

Low pressure, 42-inch cylinder, 84 inch stroke, with fly-wheel pulley 20 feet diameter, 36 inch face, and

Four Tubular Boilers, o inches in diameter, so feet long, and all co ections practically as good as new.

The Geo. Place Machinery Agency,

121 Chambers and 103 Reade St., NEW YORK. A. J. STEINMAN, Chairman. W. B. Middleton, Supt. W. G. Mendinhall, Sec'y & Treas.

OFFICE OF PENN IRON COMPANY, Limited,

MANUFACTURERS O Merchant Bar Iron, Hammered and Holled Axles, Car Forgings, Bridge Work, Fish Joints, Bolts, R. B. Spikes, Bolt Ends, &c., &c., LANCASTER, PA.

- WANTED.

A good second-hand Engine, 16 or 17 inch diameter cylinder, short stroke, to run about 200 revolutions per minute; suitable to drive a train of small rolls.

FOR SALE.

One large Planer, 25 ft. long, 5 ft. square, built very heavy, in first class condition. Also, one Boring Mill, one large Slotter, one Shaper, three Drill Presses, one small Lathe, lot of Vines, one Steam Hammer for making blooms, lot of Wood-Working Machinery for making patterns, Shafting and Pulleys; also, large lot of Flasks and Foundry Fittings, for doing light and heavy work, and one large Coundry Crane, all in good condition and for sale cheap. Address PENN IRON CO., LIMITED, Lancaster, Penn.

For Sale.

23 in. x 48 in. CORLISS ENGINE.

Can be seen running. Will be delivered latter part of this month. Also 18 in. x 42 in. Hewes & hillips. Can be delivered at once.

E. P. BULLARD,
14 Dey St., New York.

BUSINESS OPPORTUNITY

A responsible Hardware house, well established in a healty and prosperous Western city (not Chicago or St. Louis) want additions I cash coultal to extend a rapidly increasing trade. Long experience enables present partners to personally manage the business. An excellent opportunity to enter an established concern. Businers has always been profitable. First-class references given and required. Only parties having emple ready means address.

O. C. APPLETON,
Care P. O. Box 672, New York, N. Y.

A SWEDISH ENGINEER OF MANY YEARS' A experience in the manufacture of Iron and Steel, for several years manager of the furnace at the largest Martin-Siemens works in Sweden, and skilled in all pertaining to the construction and management of rolling mills, gas producers for sawdust and gas-welding furnaces, desires a position from next Spring. Speaks also English and German. Address

Filipstad, Sweden, poste restante.

Jute Machinery for Sale, Consisting of 4 break cards, 4 finish cards, 1 Robing frame, 6 spinning frames, 9 looms drawing frames, cap winder, calender, &c. Harris-Corliss eagine, 12x3,6 shafting, belting, Harrison boiler, &c., all in perfect order. With a daily capacity of 3000 yards. Bagging from butts or tow. For particulars inquire of H. L. FEARING & CO., Nov. 10, 1879, 91 Commercial st., Boston.

For Sale.

Stock of hardware, stoves and implements, and ore furniture, in one of the best towns in Kansas. HARDWARE.

Special Notices.

DON'T BUY

MACHINERY

Of any kind

UNTIL YOU WRITE TO US

for our List No. 20, containing full description with prices, of over 2000 New and Second-Hand Machines, such as

MACHINE TOOLS

BLACKSMITH TOOLS

WOODWORKING MACHINERY, STATIONARY AND HORIZONTAL ENGINES AND BOILERS,

> PORTABLE ENGINES, HOISTING ENGINES, CAR MACHINERY, WATER WHEELS, COTTON AND

> > WOOLEN MACHINERY. SAWS.

We offer the largest collection ever in the hands

PRICES FAR BELOW THEIR TRUE VALUE.

Enclose stamp and state fully just what Ma chine or Machines you are in want of. Address

S. C. FORSAITH & CO.

MACHINISTS, AND GENERAL MACHINE DEALERS,

> MANCHESTER, N. H. FOR SALE.

> > THE VALUABLE

FORT ALLEN IRON WORKS At Weissport, Carbon Co., Pa.,

On the line of the Lehigh & Susquehanna Railroad, and Lehigh Canal, tour miles east from Mauch Chunk, in the Coal and Iron district, and having good access to the New York and Philadelphia markets. This property consists of one puddle mill and three puddling furnaces; one large merchant mill with heating furnace; one small merchant mill with heating furnace; new engine and belt, and all the necessary machinery, in good repair, to run both mills. All the necessary tools for running the mills will be sold with the property. It can therefore be started with very small expense. For sale on favorable terms. Apply to

For Sale.

One 18-in. Muck Train, 3-high.

One Breaking-down Train, 2-high. One Engine, 14X30.

One Rail Punch and Straightener. Two Rail Saws and connections, all in good order. having been in use only a short time. For terms

&c., address. J. M. BROWNSEN,

P. O. Box 748, Pittsburgh, Pa

Protection in Canada.

The new tariff stops importation. Branches of existing U.S. manufacturing con panies are accordingly being established in Canada A complete manufactory, with substantial buildings; water power; in good center for labor and railway distribution; obtained by owners by fore-

closure; offered for sale; terms easy. Full information on application to

DONALD C. RIDOUT,

Toronto, Ontario.

WANTED—By a young man, a situation in a hardware house as traveling salesman. Is acquainted with tin plates and sheet irons, and can furnish the very best reference. Has had six years' experience in the hardware trade. TRAYELER, U. S. Hotel, Portland, Me. ASTONISHING POWER

PUNCHING & SHEARING PRESSES. See our illustrated advertisement on next to last page of this paper.

PEERLESS PUNCH AND SHEAR CO. 52 Dey Street, New York City. A N EXPERIENCED HARDWARE
man, fifteen years in one large house in this
city. Was bookkeeper, cashier, stock buyer, salesman and one of the managers. Open for any position at a moderate and reasonable salary. Firstclass city references. Address.
HARDWARE, Station L, New York City.

Wanted.

An active or special partner, with from \$50,000 to\$ 75,000, in the manufacturing of Marine engines general railroad and Bridge work. The works are well located, and can employ 600 men.

Office of The Iron Age, 220 S. 4th St., Phila., Pa. FOR SALE.

Boiler 150-horse-power, engine 200-horse-power, and other smaller sizes. Machinery for rolling steel tires complete. Machinery for making ice with the greatest economy. All sizes built at short notice. Boilers built to order warranted the most conomical.
Apply or address

LESLIE, Manufacturer, Raiiroad Avenue, Jersey City.

Box 366, Salina, Kansas.

WANTED,—A situation as resident or traveling least or West, by a gentleman of ten years' experience in the Hardware and Stove business; understands bookkeeping by double entry. Good references. Address

P. O. BOX 1157,
New Haven, Conn,
New Haven, Conn,
New Haven, Conn,
New York,

WANTED.—A gentleman 12 years in the iron trade, who has had dealings with nearly all trade, who has had dealings with nearly all arge buyers in the West, desires to represent one or more manufacturers of Iron, Steel, Nails or heavy Hardware in the West, with office in Chicago. References in Pittsburgh and the West, Address

P. O. BOX 1157,
New Haven, Conn,

Special Notices.

ENGINEERS:

The Right Men in the Right Places. Having posted ourselves in the specialties of many well-known engineers and chemists, and having made favorable contracts with them, we are prepared to supply their services

are prepared to supply their services.

For Designing, Constructing and Testing Machinery and Fitting up Factories,
For Hydraulic Works; for Bridge Building,
For Mining Work of all Kinds,
For Balast Furnace Building and Metallurgical
Operations,
For Sanitary Engineering; for Surveys,
For Kalitary Engineering; For Anitary Engineering; for Barveys.
For Railroads.
For Railroads.
For Raports on New Inventions for Capitalists
For Analyses and Assays.
For Expert Testimony in Law Suits.
For Frotessional Advice generally.
The Best Talent at Moderate Cost.

PARK BENJAMIN'S SCIENTIFIC
EXPERT OFFICE,
37 Park Row, - - NEW YORK,

JOHN R. WHITLEY & CO.,

European Representatives of First-Class American Houses,

STEAM PUMPS, &c., &c. FIRST-CLASS AGENTS

IN THE Principal Industrial and Agricultural Cities and Centers of Europe.

TERMS ON APPLICATION. PARIS, LONDON.

Poultry, E. C. 8 Place Vendome. THOS. TURTON & SONS.

WM. CREAVES & SONS, Steel, File and Railway Spring Manufacturers.

SHEFFIELD, ENGLAND. desire to give notice that they have removed their place of business from 102 John Street, New York,

where their American interests will be in future under the management of MR. ALEX. A. ARTHUR. JOHN E. SWAN & BROTHERS.

40 Kilby Street, Boston,

Glasgow and Middlesbrough,

Exporters of all brands of Scotch & English Pig Iron.

c. f. i. to America and f. o. b. British ports. Old Iron Rails, Puddled Bars

AND MANUFACTURED IRON.

The Sherman Process Co. 9 Pemberton Square, Boston, Mass., ssue Licenses to use the Process for the

Manufacture of Iron and Steel In the Bessemer Converter, Crucible, Siemens-Martin, Puddling, Blast and Cupola Furnaces. The use of this Process improves the quality of the product, saves fuel and labor, and does not re-quire any change in furnace or manner of working See page 17 of The Iron Age of Oct. 25th, 1877.

WE QUOTE FOR

STEEL OR IRON RAILS, STEEL TIRES,

Axles, Forgings, Bars, Piates, Angles, Sheets and Billets of any temper or for any purpose. Also, Steel Nail Sheets, Wire Rods, Springs, and all kinds of Steel goods. Also, Spiegeleisen, Ferro-manganese and Silicious Pig Iron, f. o. b. any Britiah port, or c. f. i. any United States port. Thirty years' experience in the Steel Trade. NIXON BROTHERS,

Newcastle-on-Tyne, DESIGNS

RICHARDS & DOLE, Springfield, Mass. CALIFORNIAN AGENCY.

A San Francisco firm of File and Tool makers having an agent constantly traveling among the consumers in the State and West Coast, is desirous of representing some first-class Eastern Houses in the manufacturing hardware trade.

Address AGENCY, 248 Beale St., San Francisco, Cal. FOR SALE,

Job Lots and Bankrupt Stocks Hardware. Great bargains offered to the trade.

A. W. WHEELER.

141 Lake St., Chicago, Ill. Hardware Store For Sale.

FOR SALE. - Hardware, Stove and Tinware business. Only hardware store in the village; established ten years; doing a good business; good reasons for selling; will give immediate posession; payments secured will be made easy. Address Deckertown, New Jersey.

WANTED,—An engagement as Business Man-ager or general Salesman for an Iron or Steel Mill or similar establishment. Would take an in-terest in a promising business. Have experience. Address MANAGER, terest in a promising business. Have experience Address MANAGER, Office of The Iron Age, 83 Reade St., New York.

Sanderson Bros. Steel Co.

Ma-

ing.

ical

ists

IC

RK.

st-

N.

S,

n.

rts.

ars

0.

the

ES,

the ous s in

al.

EU.

ess; pos-

5 teel in-

ork.

0.

Trade Report.

Office of The Iron Age, Wednesday Evening, December 17, 1879.

The financial markets, since our last review, have been rather dull, and as a rule weak. The specie importations for the week have aggregated \$2,699,155, of which \$2,631,565 was gold and \$67,590 silver. This brings the total from January 1st up to \$83,053,434, including \$73,592,912 gold and \$9,460,522 silver. From August 1st to December 12th the importations reached \$76,-799,325, consisting of \$74,305,530 gold and \$2,493,785 silver, as follows: \$39,115,966 foreign gold coin, \$20,610,420 gold bullion, \$14,689,898 American gold coin, \$103,214 gold dust, \$1,254,308 American silver coin (including trade dollars), \$994,410 foreign silver coin and \$31,000 silver bullion. Of the total since August 1st \$45,681.354 was received from the Continent, \$25,720,997 from Great Britain and \$5,396,794 from West Indies and South America.

In the local money market the ruling rate for call loans has been 6 @ 7 per cent., with loans as low as 5 per cent.

Government bonds have been quiet and firm, closing at the quotations given below.

The stock market has been dull, and as a rule weak. The principal dealings have been in Erie, Western Union Telegraph, Wabash and Pacific, Pacific Mail, Kansas and Texas and coal stocks.

The bank return shows a decrease of \$2,103,175 in surplus reserve, which now stands at \$5,583,500, against \$9,827,800 and dealers fairly employed, and to think. a revised discount sheet, as follows: at this time last year, and \$8,155,600 at the corresponding period in 1877. The with a strong upward tendency in some line loans show a gain this week of \$2,649,000; the specie is down \$701,600; the legal tenders are decreased \$1,269,300; the deposits other inquiry for Nails this week, and althoug than United States are down \$529,100, and no change in the card rate has taken place the circulation is increased \$208,700.

The following is an analysis of the bank totals of this week compared with that of

| last week : | | | | |
|---------------|------------------|-------------|------|-------------|
| | Dec. 6. | Dec. 13. | Com | parisons. |
| Loans \$ | 273, 101, 100 \$ | | Inc. | \$2,649,000 |
| Specie | 54,771,000 | 54,069,400 | Dec. | 701,600 |
| Legal t'nd'rs | 14,673,200 | 13,403,900 | Dec. | 1,269,300 |
| Tot. reserve. | 69,444,200 | 67,473,300 | Dec. | 1,970,900 |
| | 24/,030,100 | 275,559,200 | Inc. | 529,100 |
| Reserve re- | | | | |
| quired | 61,757.595 | 61,889,800 | Inc. | 132,275 |
| Deficiency | 7,686,675 | 5,583,500 | Dec. | 2,103,175 |
| Circulation. | 83,255,100 | 33,463,800 | Inc. | 208,700 |

The foreign trade movements at the port of New York since our last issue are shown in the following tables;

IMPORTS.

merchandise valued as follows:

| Dry goods General mdse | \$834,073 3,130,683 | 1878. \$1,177,106 6,094,964 | \$1,634,220 8,389,136 |
|-----------------------------------|----------------------------|-----------------------------------|---------------------------|
| Total for week. Prev. reported | \$3,969,695 302,797,566 | \$7,272,070 209,650,383 | \$10,223,356 |
| Since Jan. 1 | | | \$324,116,660 items of |

| | Quantity. | Value. |
|--------------------|------------|---------|
| Anvils | 293 | \$2,192 |
| Brass goods | 25 | 2,670 |
| Bronzes | | 7,606 |
| Chains and anchors | 133 | 3.843 |
| Copper | | 163,255 |
| Cutlery | 243 | 48,420 |
| Guns | | 13,815 |
| Hardware | IO | 683 |
| Iron, hoop, tons | 53 | 9,865 |
| Iron, pig, tons | 7,910 | 190,433 |
| Iron sheet, tons | 58 | 3,278 |
| Railroad bars | 3.448 | 6,351 |
| Iron tubes | 150 | 375 |
| Iron ore, ton | | 3,003 |
| Iron, other, tons | | 304,570 |
| Lead, pigs | | 864 |
| Metal goods | | 21,803 |
| Nails | | 235 |
| Needles | | 7,778 |
| Nickel | | 4,544 |
| Old metal | | 15,005 |
| Platina | | 10,850 |
| Plated ware | X | 30 |
| Percussion caps | 25 | 4.749 |
| Saddlery | | 1,634 |
| Steel | 7. c8c | 43,333 |
| Silverware | | 578 |
| Tin, bxs | 47-740 | 236,522 |
| Tin, 9,348 slabs | . 227. 228 | 135,400 |
| Wire | 260 | 4,602 |
| Zine | 180.467 | 6,920 |
| | -23/401 | 0,920 |

EXPORTS, EXCLUSIVE OF SPECIE.

For week ended December 16 :

| For the week Prev. reported | \$6,319,059 £77,239,341 | 1878 \$6,331,833 327,526,596 | 1879. \$7,153,60 330,799,40 |
|--------------------------------|----------------------------|------------------------------------|-----------------------------------|
| Since Jan. 1 | 283,548,400 | \$333,858,429 | \$337,953,00 |
| For the most | EPORTS OF | | |

| Total for the week Previously reported | \$197,049 13,913,284 |
|--|-------------------------|
| Total since Jan. 1, 1879 | \$14,110,333 |
| Government bonds at the close | were firm |
| at the following quotations: | |
| Bid. | Asked. |
| U. S. 6's 1880 registered | 103% |
| U S. 5's 1880 coupon 105 1/4 | 105% |
| U. S. 6's 1831 registered | 103% |
| U S. 6's 188 coupon 10634 | 106% |
| U. S. 5'8 1881 registered | 1031/8 |
| U. S. 5'8 1881 coupon103 | 1 2031/8 |
| U. S. 41/2's 1801 registered to53/4 | 105% |
| U. S. 416's 1891 coupon 10514 | 105% |
| U. S. 4's 1907 registered 102% | x083/4 |
| U. S. 4'8 1907 coupon | 10356 |

The following were the closing quotations

| Alton and Terre Haute " Pref. 4 American District Telegraph 7 Atlantic and Pacific Telegraph 7 Atlantic and Pacific Telegraph 8 Burlington and Quincy 12 Canada Southern 6 Cent. Arizona 2 Canton 6 Caribou 6 Col., Chicago and Indiana Central 2 Chicago, St. Paul and Minn 4 Chicago and Alton 9 Chesapeako and Ohio 1 | 636 | |
|---|-------|------|
| American District Telegraph. 7 Atlantic and Pacific Telegraph. 4 Burlington and Quincy. 12 Canada Southern. 6 Cent. Arizons. 2 Canton. 6 Caribou. 6 Col., Chicago and Indiana Central 2 Chicago, St. Paul and Minn. 4 Chicago and Alton. 7 Pref. 11 | | 28 |
| Atlantic and Pacific Telegraph. 4 Burlington and Quincy. 12 Canada Southern. 6 Cent. Arizona. 2 Canton. 6 Caribou. 6 Chicago and Indiana Central 2 Chicago, St. Paul and Minn. 4 Chicago and Alton. 9 Pref. 19 | | 74 |
| Burlington and Quincy. Canada Southern. 6 Cent. Arizona. Canton. Carlbou. Col., Chicago and Indiana Central. Chicago, St. Paul and Minn. Chicago and Alton. Pref. 11 | | 4534 |
| Canada Southern 6 6 Cent. Arizona 2 Canton 6 Caribou 6 Col., Chicago and Indiana Central 2 Chicago 8t. Paul and Mian 6 Chicago and Alton 7 Pref 1 | 37 | 128% |
| Caribou Col., Chicago and Indiana Central. 2 Chicago, St. Paul and Minn | 8 | 70 |
| Caribou Col., Chicago and Indiana Central. 2 Chicago, St. Paul and Minn | 3 | 21 |
| Col., Chicago and Indiana Central. 2 Chicago, St. Paul and Minn. 4 Chicago and Alton. 9 | 103/9 | 61 |
| Chicago and Alton | 476 | 5 |
| Chicago and Alton | 10 | 20% |
| Pref | 16 | 47 |
| Chesapeake and Ohio | 1974 | 100 |
| CAICEBDORKO ADD UNIO | 8 | 120 |
| 11 14 There 8 | 1878 | 19 |
| ii ist Pref 2 | | 30 |
| Cumberland Coal and Iron | 1019 | 24 |

| Dolawaya Lack and Woston | 0 |
|---|--------|
| Delaware, Lack, and Western 81 | 811/8 |
| Delaware and Hudson Canal 741/2 | 75 |
| Express—Adams | 105% |
| " American 58 | 6u |
| " United States 49 | 4934 |
| " Wells, Fargo & Co 1041/2 | 105 |
| Erie 415% | 4134 |
| " Pref 69½ | 9.74 |
| Excelsior Mining | |
| Harlem | 251/2 |
| Harlem154 Hannibal and St. Joseph334 | 160 |
| danmon and St. Joseph 33 6 | 3434 |
| " Pref 63¾ | 64 |
| Homestake39 | 40 |
| Illinois Central981/2 | 99 |
| Ind., Cincinnati and Lafayette 234 | 3 |
| Kansas Pacific 8s | 90 |
| Kansas and Toxas 321/4 | 3236 |
| Keokuk and Des Moines | 18 |
| Lake Shore roal/s | 1031/4 |
| Lake Erie and Western21 | 22 |
| Little Pittsburgh 301/4 | 301/2 |
| Louisville and Nashville 871/2 | |
| | 8734 |
| | 94 |
| | 1011/2 |
| Mobile and Ohio | 221/2 |
| Nashville and Chattanooga 701/2 | 77 |
| New York Central128 | 100000 |
| New Jersey Central 811/2 | 811/4 |
| New Central Coal 34 | 35 |
| Northwest 875/8 | 8776 |
| " Pref103 | 10338 |
| Northern Pacific 3216 | 3234 |
| " Pref 581/ | 581/2 |
| Ohio and Mississippi 275% | 273/4 |
| " Pref 561/2 | 561/2 |
| Pacific Mail 3478 | 35 |
| Panama | 169 |
| Quicksilver 22 | 23 |
| " Pref 63% | 6476 |
| Reading | 6734 |
| Rock Island and Pacific | |
| | 14914 |
| | |
| | 401/4 |
| 1101 4772 | 48 |
| St. David 1st Pref., 6614 | 67 1/2 |
| St. Paul 723/8 | 721/2 |
| Pref 98½ | 99 |
| Standard 2834 | 291/4 |
| Sutro Tunnel 334 | 376 |
| Union Pacific 86 | 861/2 |
| Wabash and Pacific 42 | 42 8 |
| " pref | 66 |
| Western Union Telegraph1041/2 | 10456 |
| 470 | 4.0 |

GENERAL HARDWARE.

The demand for Hardware, both foreign of goods.

There is considerable improvement in th the upward tendency, which is so marked feature of the iron market, has had the effect of lending additional strength to thi branch of the trade, and holders are ver firm in their views. We continue to quot 10d. to 60d. \$3.60 @ \$3.75 net, according to quantity.
On the 11th instant the Brass Manufac

turers issued a revised price list, showing a advance on former list of 5 cents a pound of Sheet Brass, Brass and Copper Wire, Brass and German Silver Tubing, &c. The new list will be found on the 24th page under head of New York Wholesale Prices Brass Kettles were also advanced to 32 cent per pound for 7 to 13 inch inclusive, and 3 cents per pound for 14 inch and over.

Hermann Boker & Co., New York, Park Logan & Co., and Klein, Logan & Co. Pittsburgh, and Powell Tool Co., of Cleveland, Ohio, give notice that on and after this date (17th instant) they will charge 40 cents per dozen advance on all Picks and Mattocks if painted red.

Brothers' Horse, Wool and Cotton Cards, announce an advance on these goods of 10 Wrought Butts as follows.

The Table Cutlery Manufacturers' Association, have in press the following cir-

(Circular No. 13.)

Office of the Table Cutlery Manufacturers' Association of the United States.

The undersigned hereby give notice that they have this day made the following advance in prices: 50 cents per gross on all No Bolster Tables bearing the "Associall No Bolster Tables bearing the "Association" stamp; \$1 per gross on all No Bolster Tables bearing our respective stamps; on all single Bolster Tables, both with our own and with "Association" stamp; \$1.25 per gross on all Capped End Tables; 65 cents per gross on Iron Handle Tables numbered 915, 715, 76, 819, 50, 215; 60 cents per gross on Iron Handle Tables numbered 900, 700, 75, 818—200; 25 cents per dozen on all Rubber Handle Table and Dessert Knives; 25 cents per pair on all Celluloid and Patent Ivory Carvers; advances on Celluloid and Patent Ivory advances on Celluloid and Patent Ivor Table and Dessert Knives will be fur-nished on application to the respective manufacturers; 50 cents per dozen on all Ivory Handle Table and Dessert Knives and Steels; 10 cents per pair on all Scale Tang and Solid Wood Handle Carvers; 20 cents per pair on all Rubber Handle Carvers : 15 cents per dozen on all Butchers' Knives with
"Association" stamp, both with Bolsters
and No Bolsters—6-inch size; on all No Bolster Butchers' and Hunters' Knives, with our respective stamps—6-inch size; 25 cents per dozen on all Bolstered Butchers' and Hunters' Knives with our own stamps— 6-inch size; all other sizes-of Butchers' and Hunters' advanced proportionately; on all Scale Tang and Solid Wood Handle Table Steels; 50 cents per gross on all moiets; 15 cents per dozen on all Putty Knives.

JOHN RUSSELL CUTLERY CO. Landers, Frany & Clark. Lamson & Goodnow Mfg. Co. MERIDEN CUTLERY CO. BEAVER FALLS CUTLERY Co.

AMERICAN CUTLERY Co. NEW YORK, December 17, 1879.

[Circular No. 14.]

At a meeting of the Table Cutlery Manufacturers' Association of the United States, held at New York, December 16, 1879, it

Resolved, That hereafter no orders shall be taken without definite specifications of amounts and dates of delivery, and that all orders, when definitely accepted, shall be binding on the buyer equally with the seller, and not subject to countermand.

The subject to countermand.

We respectfully call your attention to the following terms of sale: Limit of credit, following terms of sale: Limit of credit,

These very liberal discounts for cash can only be allowed where the above terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And we desire it to be distinctly understood that these terms are complied with. And

MERIDEN CUTLERY Co., BEAVER FALLS CUTLERY Co., AMERICAN CUTLERY CO.

New York, Dec. 17, 1879. The Wiebusch & Hilger Hardware Co... under date of 16th instant, advise us that they have made a further advance on Frary Cutlery Co.'s Table Knives and Forks, as

| No Bolster Knives and Forks Bolster Knives and Forks | r gro |
|---|-------|
| Bolster Knives and Forks | 95. |
| Bolster Knives and Forks | |
| | 1 |
| All Cap'd Knives and Forks | 1 |
| Other goods in proportion. Terms ar | id d |
| counts unchanged. | |

Fisher & Norris, Trenton, N. J., advise

10th inst., a revised discount sheet, as fol-

| n, | lows: |
|-----|--|
| 08 | SEDGWICK MANUFACTURING COMPANY. |
| | Terms cash. Accounts unpaid 30 days from |
| 10 | |
| | at sight Dis per cent |
| h | |
| Θ, | No. 2 Cheese Tryers |
| | |
| a | No. 4 " "20 |
| 10 | |
| | |
| is | No. to Tallow " |
| у | |
| | No o Flour and Sugar Auger |
| 8 | No. 11 Cotton Tryers |
| 0 | No. 12 Coffee 10 |
| 10 | No. 13 " " Improved |
| | No. 14 Seed and Grain Tryers |
| 3- | No ve Pocket Tryers |
| 2- | No. 16 Ham |
| n | No. 17 ** Stringer |
| n | No. 18 Butter Knife |
| | No ro Apple Corer |
| 18 | Carpet Stretcher |
| W | Spoke and Cooper Shaves35 |
| VV. | Horse Shoe Saw Sets |
| 3, | Pruning Saw with Chical |
| | Pruning Saw, with Chisel 20 Hook. 20 |
| 3. | Garden Trowels |
| 8 | Weeding Forks30 |
| | Edging or Border Knives |
| 5 | Garden Reels30 |
| | Shuffle Hoes25 |
| | |
| | Floor Scrapers |
| | Garden Hoes and Rakes20 |
| 9 | Set Garden Tools |
| f | Comb Plates50 |
| 3 | Corrugated Comb Plate |
| d | Card Cleaners |
| 1 | Burling Irons |
| | " Nippers25 |
| u | Card Cleaner Holders25 |
| | The manufacturers of Wrought Hinges |
| | |

| | | | | | | | | | | | | | | | | cer |
|-----------------|-----|----|----|---|--|---|--|------|--|------|---|---|---|---|-----|-----|
| Narrow Butts | | | | , | | ۰ | | | | | | | | ī | . 4 | 108 |
| Light Narrow B | ut | to | ŧ. | | | | | | | | | | , | | . 4 | od |
| Light Blind | 64 | | | | | | | | | | | , | ۰ | | . 4 | Sol |
| Broad | 0-1 | | | | | | | | | | | , | | ۰ | . 4 | 108 |
| Table | 0.8 | | | | | | | | | | | | | | . 4 | nd |
| Back Flaps | | | | | | | | | | | | | | | . 4 | od |
| loose rin Butts | | | | | | | | | | | | | | | | |
| " Joint " | | | | | | | | | | | | | | | . 3 | od |
| cm. | | | | | | | | | | | • | | | | W11 | |

revised price list under date of 10th instant,

6 th'd and 9 th'd (3 in. and 5 th'd (3 in. and 5 th'd (3 in. and 5 th'd (4 in. and 5 th'd (5 in. and 5 prices and terms of sale w

have in press a revised price list of German Bits, which we print below. The discount to apply to this list is not yet determined.

We have made these goods for the past measure exactly as it is marked.

[No. 2.1 RUSSELL & ERWIN MANUFACTUBING CO., NEW YORK AND PHILADELPHIA.

566, Cast Steel Car Bits, chi

us, under date of 17th inst., as follows: "Owing to the continued increase in cost of material and labor, we shall be compelled to advance the price of 'Eagle' Anvils to 91/2 cents per round-this advance to take effect January 15, 1880."

Sedgwick Manufacturing Co. (Graham &

Graham & Haines, agents for Howard have advanced the price of Strap and T

| | | | | | | | | | | | | | | I | Эį | 8, | | pı | GL_a | cent |
|------------------|-----|----|---|---|----|----|----|----|----|----|---|----|----|-----|-----|----|---|----|--------|-------|
| Narrow Butts | | | | | | | | | | | | | | | | | | | | |
| Light Narrow Br | att | 8. | | | | | | | | | | | | | | | | | | |
| Light Blind | 6.6 | | | | | | | | | | | | | | | | | | | 40001 |
| TM OWN | | | | | ۰ | | | | | | | | | 0.1 | . , | 4 | | | | 40001 |
| Table | | | | | | | | | | | | | | | | | | | | 400C1 |
| Back Flaps | | | | | | | | | | | | | | | | | | | | |
| Loose rin Butts | š., | | | | ٨ | | | | | | | | | | | 0 | | | | 500E1 |
| " Joint " | | | | | | | | | | | | | | 0 | | | | | | 50001 |
| These prices | V | re | r | 0 | 1 | al | n | n | 01 | al | n | 26 | 36 | l | - | 0 | n | | T | hurs |
| day last too lat | te | t | 0 | ŧ | a) | P | Di | ee | ır | | i | n | 1 | 0 | u. | ľ | | is | 81 | 10 0 |

the 11th instant. The manufacturers of Cordage issued a showing a further advance of ½ cent per ment on the 25th page, in pound on Sisal Rope. The new list is as of the trade to their imp

Manila Whale Lines.

Tar'd Manila
Fine Tar'd Manila Lath Yarn
Sisal Rope, sizes above 12 th'd and Hay and
Hide Rope.
Sisal Rope, 12 th'd (% in diam).

diam)
6 th'd and 9 th'd (% in and 5-16 in.

Fernald & Sise, No. 100 Chambers street, net result substantially from the new list is 50 a

New York, Dec. 15, 1879.

GENTLEMEN: We have this day adopted the following list on our "Roselle" German Bits, either Black or Straw-colored finish: Per doz....\$1.10 1.10 1.10 1.10 1.10 7 8 9 10 11 12-32
Per doz...\$1.10 1.10 1.25 1.25 1.50 1.50
Assorted, 4 to 8-32, per doz....... \$1.10

revised price lists of Rus three years with the greatest care, and Co., Mallory, Wheeler & have so thoroughly tested them that we can Lock Works. We have re say with confidence that they are the best of ing: the kind made. We warrant each size to Very truly, FERNALD & SISE. goods of our manufacture, excepting Shutter, Drawer, and Pict. Knobs, will be 50

The Russell & Erwin Mfg. Co. will issue, under date of 15th inst., the following memorandum of changes in their price book and discount sheet No. 2.

We have this day adopted new list prices on Door Locks, Door Knobs and Escutcheons Prices Current.

Correcting Price Book and Discount Sheet, No. 2.

on Door Locks, Door Knobs and Escutcheons as follows, subject to 50 per cent. discount and 2 per cent. for cash, 30 days, and to our usual printed terms of sale.

RUSSELL & ERWIN MFG. Co.

New Britain, Conn., New York city, Philadelphia and Baltimore.

BRANFORD LOCK WORKS.

December 15, 1879. New List.

40&10 RUSSELL & ERWIN MANUFACTURING Co.'s REVISED PRICES,
Locks and Latches in Numerical Order,

| dis | Light Inside Blind Butts Light Pattern40& | | 1.0 | cks and I | | 98 In 7 | | | rder. | | |
|------------|--|--------|---------|----------------------------------|----------|---------|-------------------------|----------------------------------|-----------|-----------------------|----|
| are | Dack Flaps40&1 | 10 | No. | Pric per do | z. N | o. | Pric per do | z. No. | | Price per doz. | 1 |
| on | Crate Hasps | 10 0 | 000., | 4. | 55 25 | 3 | \$88. | 50 812. | | \$10.75 | ž. |
| ore | Crate Hinges | 0 0 | 1/8 | 5.0 | 20 | | 7.0 | 50 820 | | 25.75 | |
| de- | Long Chest Hinges | | 1/8. | 10,0 | 00 26 | 036 | 9.3 | 25 821. | | 8.10 | |
| unt | 522, Flower Pot Brackets, No. 1825, List \$5.75.20% t | 5 0 | 0% . | 12.0 | 26 | 1/2 | IO. | 50 825. | | 12.75 | |
| in- But | 539, 540 Bright Wire, Screw Eyes, Revised | 0 | 90 | 7. | 25 06 | 3 | 9.0 | 25 827. | ***** | 14.55 | |
| eir | Brass Wire Screw Eves Revised List 60%; | 0 0 | 03% | 10.0 | 20 | 4 | 10,7 | 75 830. | | 10.40 | |
| vill | 540 to 542, Bright Wire Screw Hooks, Re- | 0 | 0/4. | 12.9 | 0 27 | 0 | II.2 | 15 832. | | 18,40 | |
| ror | 541, 542. Brass Wire Hooks, Revised List60&10 | 0 0 | T | 15.0 | O 27 | 2 | 12.5 | 25 8401 | 6 | 28.50 | |
| | 541. Bright Wire Gate Hooks and Eyes, Re- | T | 16 . | 10.8 | 5 27 | | 15.5 | 0 8505 | 6 | 2.75 | |
| | Brass Wire Gate Hooks and Eyes, Re- | 2 | | II.7 | 5 286 | 5 | 19.5 | O 800. | 2 | 4.65 | |
| 5 | vised List | 0 01 | 12 | 16,2 | 9 300 | | 4.0 | 5 8005 | 2 | . 5.00 | |
| - | 542, Bright Wire Cornice Hooks and Eyes, | | 2 | 17.5 | 0 301 | | 7.5 | 0 8615 | 9 | 5.90 | |
| | Revised List | 0 7 | 15 | 56.4 | 5 202 | | . 10.0 | a 862. | ģ | 7.90 | |
| | 552, Tanged Firmer Chiseis, Extra | 8. | 2 | 29.5 | 0 030 | 2, , , | 12.0 | 0 865. | | . 6.15 | |
| | Gouges Extra 20 | 111 | 2 | 17.5 | 0 030 | 3 | 15.0 | 5 800. 0 1103 | | 7.40 | |
| 0., | NO. 1 | 0 13 | 2 | 18.7 | 5 304 | | 10.8 | 5 1194 | | . 37.50 | |
| at | Tanged Coachmakers' Firmer Chicels | OI | 358 | 27.7 | 5 310 | | 5 5 | 5 T200 | | 49.75 | |
| ry | Tanged Millwrights' Firmer Chisels 30 Tanged Millwrights' Firmer Gouges 30 | 13 | 3/4 . | 20.6 | 031 | 0 | · · 7.2 | | ¥ | 7.90 | |
| as | | OI | 31/2 . | , 21.7 | 5 031 | I | ., 10,9 | 0 1240 | | 9,30 | |
| 280 | 360, Tanged Turning Chisels. 30 Tanged Turning Gouges. 30 | | | 24.7 | | 2 | 12.9 | 0 1250 | | . 12.90 . 49.50 | |
| .50 | 561, Screw Drivers, Rosewood Handles20, 10&10 | 0 01 | | 24.0 | 0 313 | | 10.8 | 5 1251. | | - 55.50 | |
| .25 | Extra | 3 18 | 3 | 30.0 | 0 314 | | 11.7 | 5 1302 | | 7.00 8.60 | |
| lin- | No. 1 | | 10 | 33.3 | 315 | | . 20.5 | 0 1304 | | . 10.45 | |
| ise | 566, Cast Steel Car Bits, change lists40 | 22 | 2 | 13.1 | 310 | | 23.5 | 0 1311 | | 7.75 | |
| rs: | Per doz \$4.25 4.25 5.00 6.00 6.75 | 24 | :: | 14.40 30.4 | 032 | 1 | 13.1 | 5 1313 | | 9.50 | |
| ost | 0 10 11 12 | 25 | 36 | 36.4 | 5 032 | | . 14.4 | | | 12.25 | |
| led | Per doz \$7.50 8.25 9.00 9.25 | 27 | | 25.00 | 324 | | 18.7 | 5 1552 | 16 | 7.75 | |
| to | Per doz\$10.25 11.00 11.75 12.50 | 29 | | 10.50 | 340 | | 3.7. | | | 4.90 5-55 | |
| ke | Assorted in Sets. | | | 12.2 | 5 343 | ***** | . 15.00 | 1607 | · · · · · | 5.55 8.60 11.60 | |
| | Quarters 21 24 32½ | 31 | 34 | 27.00 | 350 | | . 5.5 | 5 1610. | | . I4.00 | |
| 80 | Per set | | 72 | Per set | 353 | | 17.50 | | | . 16.00 . 7.50 | |
| of | 569 Universal Hollow Angers 20 584, Ogden's Railrond Picks 40 Mattocks 35 634 to 637, Boxwood Rules 60&to | 32 | B. | P 27.00 P 51.2 | 355 | ***** | . 20.50 | 0 1614. | | 9.50 | |
| ol- | 584, Ogden's Hailroad Picks40 | 32 | HI | P 51.2 | 361 | | 7.50 | 3 156r. | | . 10.00 | |
| | 634 to 637, Boxwood Rules | 33 | EI | P 24.30 | 036 | K | . 10.00 | 0 1801. | | · 7.35 · 9.35 | |
| | 637, Ivory Rules | 22 | | | | 3 | 15.00 | 0 1800. | | . 12.10 | |
| ble | Board and Log Measures | 03 | 2 E | P 17.10 P 40,00 | 370 | 4 | 16.20 | 1807 | **** | . 14.6a . 15.75 | |
| nt. | 039, Miscellaneous50&10 | 03 | 2 H | P 40.00 | 037 | E | . 10,90 | 1812. | | . IQ.75 | |
| .20 | 648, Add New Stock and Die, No. 65, 1/4 to 1/4 inch, right hand, 6 Taps, 4 Dies, List \$6.50, | 03 | 216 1 | EP. 14.39 HP. 27.50 | 037 | | . 16,00 | | | · 25-75 · 8.60 | |
| . 20 | same style as No. 27 | 03 | 2 1/2 I | I P. 27.50 | 037 | | 17.50 | 1822. | ***** | . 11.85 | |
| 20 | 649, Bellows, Blacksmith | 03 | 3 E | P. 27.50 P. 19.40 | 038 | 2 | . 14.40 | 1827. | | · 14-55 | |
| 30 | Inch 46 48 50 Change List, each\$45.00 50.00 60.00 | 03 | 3 11 | P 19.40 P 45.00 Per doz. | 038 | 3 | 17.50 | 1831. | | . 18.40 | |
| 20 | 654, Girard's Wrenches | | | 35.65 | 418 | | . 46.50 | 1833. | | . 28.50 | |
| 30 | Agricultural Wrenches 65 Coe's Genuine Wrenches 55 | 35 | | 37.65 | 420 | | 52.50 | 1861 | | 6.40 | |
| 20 | 658, M. C. Ogden's Scissors and Shears, | 38 | 55 | Por sot | 421 | | . 32.25 | 1862. | | . 8.40 | |
| 20 | change lists | 038 | 35% B | 540 | 4 17 | | . 28.50 | 1866 | 2 | . 8.75 | |
| 20 | Bent Trimmers \$20.00 22.00 | 1 0.30 | 3 15 | 7. 4.50 Per doz. | 4 2 2 2 | | . 22.50 | 1867. | ***** | 11.15 | |
| 35 | Inches 5 5½ 6 6½ 7 Ludies' Scissors.\$10,00 10,50 11,00 12,00 13,00 | | | | | | . 22'15 | 1871. | | . 15.00 | |
| 20 | Inches 5 5½ 6 Tailors' Points\$11.00 11.50 12.00 | | | 12,50 | | | . 18.40 | 1872. | | 21.90 | |
| 35 | Tailors' Points\$11.00 11.50 12.00 | 040 | S | 1.90 | 538, | | . 8.15 | 1880. | | 14.15 | |
| 35 | Inches | 42 | 6 | 7.00 | 543. | | 23.00 | | | . 18.55 | |
| 32 | Inches | | | 10.20 | 544- | | . 14.00 | 1883. | | 24.55 | |
| 50 | Barbers' Scissors. \$15.00 16.00 17.00 18.00 20.00 | 1 46 | | 45.00 | 545 | | 12.10 | 2201. | | 9-75 | |
| 30 | 668, Furniture Knobs, Nos. 8, 9 and o 10 682, Sheet Brass, advance 5 cents per lb. on | 403 | 2 | 65,00 | 5455 | 2 | 13 10 | 2262 | | 11.25 | |
| 30 | list,to | 48. | | 9.25 | 5465 | 2 | 23.35 | 2270. | | 12.50 | |
| 25 | list, to Brass Wire, 10 Copper Wire, 10 Brass Door Rail, 10 Copper Wire 10 Brass Door Rail, 10 Copper Wire 10 Copper | 50. | | 10.50 | 548. | | 18.55 | 2271. | | 13.00 | |
| 30 | Brass Door Rail, | 53. | | 11.65 | 548) | | . 11.05 | 2273 | | 14.75 | |
| 20 | 004, Iron Jack Chain, | 54. | **** | 16.90 | 550. | | 3-55 5-45 | 2400. | ***** | 65.99 | |
| 50 | 685, Add American Cow Ties, No. o, @ \$2.50 per doz | 57. | | 31.95 | 551. | | 4.05 | 2402. | | 73.40 | |
| 001 | Add American Cow Ties No. on @ \$2 75 | 58. | **** | 31.95 | | £ | | 2403. | **** | 43.90 | |
| 25 | per dos. 15 686, R. B. & W. Carriage Bolts, 66 Tire 70 687, Flat Head Stove Bolts. 40 | 59. | | 3.15 | 552. | ***** | 5.25 | 2405. | | 53.99 61.40 | |
| 25 | Tire | 61. | **** | 2.80 | 0552 | | 7.75 | 2407 | | 56.99 | |
| 89 | 687, Flat Head Stove Bolts | 62. | | 7.50 | 003. | | ro.go | 2431 | | 59-50 | |
| T | Sink Bolts | 64. | | 9.00 | 0604 | | 3.25 | 2432 | - | 50.50 | |
| d | Stove Rods, 7 cents per lb.,Net | 65 | | 12.75 | 605. | | 4.00 | 2437 | | 31.00 | |
| | 711, Horse Cards, | 072 | | 5.60 | 0506 | | 4.05 | 2438. | ***** | 22.50 | |
| 10 | 743, R. & E. Mfg. Co., Tinued Iron Spoons, 45&5 Tinned Iron Basting Spoons, | 072 | 12 | 6.50 | 607. | | 5.55 11.60 | 2450 | | 25.00 | |
| 10 | Tinned Iron Basting Spoons,35&5 | 073 | | 13.50 | | | | 2457 | | 31.00 | |
| 10 | 747 to 749, Oliver Ames & Sons' Brands Shovels, Spalles and Scoops | 74. | | 19.50 | 00859 | | 13 25 | 2471 | | 40.75 | |
| | 748, Add to List Prices Nos. 838 to 864, 50 | 77. | | 17.50 | 6125 | | 0.40 | 2480 | | 31.75 | |
| 10 | cents per dozen. | | | 23.00 | 61356 | | 7.50 | 2482 . 2490 | | 34-75 | |
| - | 749, Add to List Prices Nos. 730 to 768, 75 cents per dozen. | do. | | 0,02 | 014. | | 0.50 | 2491 | | 28.00 | |
| 8- | Russell & Erwin Mfg. Co., Brauds | 845 | | 7.00 | 615. | | 17.00 | 2492 | | | , |
| of | Shovels, Spades and Scoops | 85. | | 35.00 | 6151/2 | | 17.00 15.00 15.00 | 2501 | | 96.05 | |
| | 751, Standard Forks, &c | 87. | | 7.85 | 023. | | 17.20 | 2502 | | | |
| a | Henry Disston & Sons, in their advertise- | 80. | | 9.25 | 630. | | 3-25 | 2511 | | 59.40 | |
| r | ment on the 25th page, invite the attention | 92. | | 53.50 | 63014 | | 3.25 | 2512 | | 64.80 | |
| | of the trade to their improved method of | 95. | | 2,80 | 632 | | 13.50 | 2516 | | 64.80 | |
| | putting up Hand Saws in boxes containing | 100 | | 68.15 | 651. | | 3.25 | 2560 | | 81.00 | |
| | one third of a dozen. They will in future | RI | 01 | 95.25 | 652 | | 3.25 | 2562 | | 81.00 | |
| 8. | put up all Hand Saws marked "Disston" in | | | 52.50 | 655. | | 4.75 | 2612 | | 6.40 | |
| 6 | this manner. In the advertisement referred | 115 | | 71.60 | 561% | | 11,25 | 2614 | × + + + × | 14.00 | |
| 1 | to an illustration of their new package is | R 1 | (22., | 132.45 | 6655 | | 39-75 | 2624 | | 43.50 | |
| 5 1 | shown. | 132 | | 120.00 | 66656 | | 85,40 | 2627.1 2627.5 2661. | **** | 31.00 | |
| 1 | At a meeting of the Lock Manufacturers | R I | 40% | 70.50 | 070 | | 10.25 | 2661. | | 13.50 | |
| - 1 | held last week, a new and uniform list of | 16 1 | 42 | 98,00 | 072. | | 54.20 | 2002 | | 10.50 | |
| | prices and terms of sale was adopted, to take | R | 150 | 95.95 | 075. | ***** | 38.45 | 8180 . 81801/2 | | 42.50 | |
| - 1 | effect 15th instant. The new list, we are | 161 | | 88.15 | 677 | ***** | 44-45 | 818114 | **** | 47-50 | |
| 20 1 . | informed, is not either an advance or decline | 0172 | 2 | 125.00 | 685 | | 44-45 50.40 45.00 | 8181 1/2 8182 1/2 8182 1/2 | ***** | 60.65 | |
| | on the net result of the former list, taken as | 173 | | 37.50 | ogz , | | 22.50 | 0103 | | 05.05 | |
| | whole, but more nearly equalizes prices with reference to cost. Some of the cheaper | 174. | | 50.00 | 09352 | | 34.00 | 81831/2 82411/2 | | 50.00 | |
| | goods have been slightly reduced and some | 175. | | 90,00 | 09334 | | 48.05 | 8240 | | 10.85 | |
| | of the better class advanced, leaving the | 180 | , | 53.10 | 695 | | 65.00 | 8303. 8304 | | T.4. EC | |
| | | 181 | 2 | 58.10 | 713 | ****** | 17.50 | 8313 | | 13.45 | |
| 4 | ruled since November last. The discount | 1815 | ź | 58.10 | 7131/2 | | 21.75 | 0 | Pe | r set. | |
| | from the new list is 50 and 2 per cent, for | 1825 | 4 | 44.40 | 718 | | 30,00 | Ranale | | m ma | |
| - 1 | eash. The following manufacturers were | 183. | 2 | 63.10 | 725 | | 55.80 | 833214 833314 | D | 9.00 | |
| | | 184. | 3 | 63.15 | 15 25 \$ | | M 20.00 | | | | |
| | Erwin Mfg. Co., Mallory, Wheeler & Co., | 184 | 2 | 63.15 47.50 68.15 52.50 | 790 | | 75.00 | 860716 860716 | | 10.80 | |
| | P. & F. Corbin, Branford Lock Works, | 1855 | 5 | 52.50 | 79014 | | 87.15 | 8607 1/4 | | 16.85 | |
| 0] | Parker & Whipple, Nashua Lock Co., Nor- | 1941 | | 48.40 | 791 | | 75.00 | 866r | 4.47.6 | 12.00 | |
| 2 1 | . I V . L C. Wassell Took Ca Danding | | | | 801 | | 6.85 | 8802 | | 19.25 | |
| 0 1 | Hardware Co., Trenton Lock Works, Jaco- | | | 53.40 | 805 | | 10.60 | 8821 | | 22.89 | |
| 1 | ous & Nimick Mfg. Co. We print below the | 2405 | 6 | 5.55 | 800 | | 12.10 | 886r | | 13.25 | |
| 1 1 | revised price lists of Russell & Erwin Mfg. | 241% | 2 · · · | 5.55 | 810. | | 13.75 | 8866 | | 15.65 | |
| 4 (| Co., Mallory, Wheeler & Co., and Trenton | 250% | 2 | 4.15 | SII | | 15.75 | 8867 | **** | 20.45 | |
| e 1 | Lock Works. We have received the follow- | + 1 | With | Anti-Fri | | | _ | | | | |
| | ng: | | | Patent b | iteel l | keys, | Nicke: | Plate | | | |
| 1 | Branford and New York, Dec, 15, 1879. | Clas | is. | Pr. doz. | Class | . Per | doz | Class. | Per | doz. | |
| 0 | On and after this date our discount on all goods of our manufacture, excepting Shut- | 399. | | 4.85 | 4II. | | 0.05 | 427 428 | **** | 3.49 | |
| 18 | 1 72 4 77 1 111 | 4OF. | | 4.85 | 41156 | | 6.65 | 420 | | 2 40 | |

6.65 427. 6.65 428. 6.65 430. 6.65 431. 4.85 434. 4.85 434. 4.87 450. 4.87 450. 4.87 450. 3.40 457. 3.40 457. 3.40 457. 3.40 457. 3.40 457. 3.40 457. 3.40 457.

| 1 | 141 | 14/4 8.30 394 37 34/4 47/4 8.30 394 37 34/4 8.30 394 37 34/4 47/5 8.80 395 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 | 100 382 1 key 16 oo 593 1 key 16 oo 16 o | 17.20 530. 19.5 52.05 531 22.5 52.05 531 22.5 52.05 531 22.5 53.05 531 22.5 54.65 660 77.5 55.05 660 77.5 55.05 665 50.2 55.75 665 50.2 55.75 665 50.2 55.75 665 50.2 55.75 665 77.1 57.05 77.1 11.1 52.05 77.1 14.1 52.05 77.1 14.1 52.05 77.1 14.1 52.05 77.1 14.1 52.05 77.1 14.1 52.05 77.1 13.0 57.05 77.1 | 1701* 30.00 | 1.30 2212 13.45 6228 15.00 400½ 9.00 |
|----------|---|--|--|---|--|--|
| No. 13 | STEEL 1.0 STEEL 1.0 | 13,00 | No. Per doz. No. Per Per Per Per No. Per | Color | Rey Drop Es colos 5 4 45.5 3507 3 3 10316 5 5 5 4 5 3507 2 3 3 10316 5 5 5 4 5 5 5 5 5 5 | 1. |

IRON.

American Pig.-The improved inquiry for raw Irons, noticed in our issue of last week, has in the interval been still further stimulated, and the market may be fairly stated active and in sellers' favor. The disposition to secure supplies for future delivery is very manifest, and in many instances makers refuse to name a price for next year. During the week very large contracts have been made by the Thomas Iron Co. for 1880 delivery at \$28, \$29 and \$30 for Gray Forge, 2 X and No. 1 Foundry. We hear also of several 100-ton lots being sold for prompt delivery on the same basis. We quote: Foundry No. 1, \$30; Foundry No. 2, \$29; and Gray Forge, \$28.

Scotch Pig.-About 5000 tons of foreign Pig Iron reached this port during the week. Sales since our last have been light, no large parcels changing hands. As regards values the tone of the market has gained strength, and some brands are quoted fully \$1 per ton advance on the figures current a week ago. We quote : Eglinton, \$24.50 @ \$25; Summerlee, \$26.50; Coltness \$28; Glengarnock, \$25.50, and Gartsherrie, \$25.50 @ \$26.

Rails.-Sales are reported of 4500 tons Steel Rails at \$65, at mill, and 7500 tons on private terms. For Iron Rails there is considerable inquiry, and we hear of sales of 7500 tons American and between 10,000 and 12,000 tons English, both on terms which have not transpired. In addition to the above, a sale of a large lot in the West is reported at \$57.50, at mill. We quote Steel, \$65 @ \$70. English Iron Rails, \$55; and American, \$54 @ \$58.

Old Rails .- Old Rails are in very active request, and sales during the week, amounting to over 20,000 tons, at prices ranging from \$33 @ \$35, are reported. The market is strong and may be quoted \$32.50 @ \$35.

Scrap. —Scrap Iron does not move as freely as the other descriptions already noticed. The supply is good, and quotations from dock are \$32 @ \$32.50 for No. 1 Wrought; we quote the same from yard, \$35

METALS.

Copper.-There has been little doing during the week under review, sales of Lake Superior being limited to 150,000 pounds at 21 1/2¢, which is the ruling figure at the close, Baltimore being nominally quotable as much. No change is reported from London per cable; by mail we have the follow ing, dated Dec. 6, and having reference to the statistics at the beginning of the month : "The total figures, including all kinds in England and Havre affoat and chartered, are 58,420 tons, against 55,658 tons on the 1st of November, or an increase of 2762 tons to be brought over from last month. These figures do not comprise the whole public stock of Chili produce, as there is some quantity of ingots lying at the railway depots at Birmingham, and we would respectfully suggest to the compilers of statistics, to whom the whole trade are greatly indebted for the very valuable information they have hitherto rendered, whether the returns would not be more complete if the Birmingham stock were included. The present statistics will doubtless be deemed unsatisfactory, for with the exception of those on the 1st of Sectember last, viz, 59,169 tons, they are the next largest on record, but then the price of Chili bars was only £54. 5/, whereas on the 1st inst. it was quoted £66. 10/, or about £12 ? ton dearer. No important events are telegraphed from quoted £66. 10/, or account of the West Coast. There was some report that Chili may be irduced to detach Bolivia from the alliance with Peru, and conclude a separate peace with her at the expense of the latter. A local circular says: "The consumption of this metal has increased in the consumption of the production of Lake the consumption of the production of the consumption of the production of Lake the consumption of while it is asserted the Copper consumption will, in the United States, exceed 64,000,000 pounds from July 1, 1879, to July 1, 1880. Estimating the consumption of 1878 to have been 40,000,000 pounds, an increase of consumption in 1879 of 60 % would make the consumption of the year to be at least 64,-000,000 pounds." We quote: Braziers' 30¢, and Bolts, 30¢. High Brass Rolls and Sheets, all numbers not thinner than No. 28, wider than 2 inches, not wider than 14 inches, 30¢, and 2¢ additional on each number thinner than No. 28 to No. 38, inclusive.

Tin .- The market here has become very quiet, and closes heavy at the following quotations for large lots: Straits, 21¢@21½¢; English Refined, 21¢; ditto Common, 20½¢ @ 21¢; and Banca, 23¢ @ 24¢. London cables Straits £90, and Singapore \$27.50 per picul. Arrivals since our last report have been 8000 slabs Straits and 2000 lngots, Australian. "London, Dec. 6.—The sudden rise which took place in this market last week after the Dutch sale was almost as rapidly lost as it was gained, and on last Wednesday business was transacted as low as £89 for foreign, or £7 per ton less than the highest quotation on the previous Thursday; but the market soon rallied again, and yesterday it still further recovered, and £90. 5/ to 10/ was officially quoted, and to-day's price is £90. 10/ to £91. The statistics pubshed for last month are rather less favorable than those issued at the end of October, the total stock having increased to 15,087 tons against 14,418 tons, and 15,582 tons on the 30th of November, 1878, but the actual stock on the spot and landing has slightly dimin-ished. The deliveries during last month were not much more than half what they were in October, being 1482 tons, against 2779 tons, and 1595 tons for the same period of last year. The shipments from Straits were 375 tons, and from Australia 1025 tons. Tin Plates .- The market here is strong, and prices are higher. We quote large lots, ordinary brands, per box: Charcoal Bright, \$7.87/2 @ \$8.12½; ditto Ternes, \$6.75 @ \$7.50/2 & \$8.12½; \$7.87½ @ \$8.12½; ditto Ternes, \$0.75 % \$7.87½ a \$8.12½; and ditto Ternes, \$6.25. Coke Tin has sold at \$6.75, deliverable dur-

ing the next three months; it is cabled 22/ from Liverpool. The market on the other side is equally strong, especially in view of the high ruling of the Iron market.

Lead .- The market has been quiet, rates not exceeding during the week a couple of hundred tons of Common Domestic, at 5%4. We quote the latter 6.60% @ 54%, nominally. Of Foreign Lead, 100 tons sold at 6%. The late destructive floods on the Isthmus of Panama, breaking up freight traffic for the time, caused some 400 to 500 tons of Lead, intended for New York, to be returned to San Francisco as ballast. "Loudon, Dec. 6.—This metal has still further advanced in value, and a fair demand exists among home consumers, but shipments to China and other foreign markets keep very China and other foreign markets keep very limited. English Pigs are now quoted up to £18, and Sheet Lead at about £1 per ton higher." Manufacturers prices remain as last noted. We quote: Bar, 6½¢; Pipe, 7½¢; Sheet, 8¢; Tin-lined Pipe, 15¢, all less 10 % to the trade. No. 1 Solder, 12¢.

Spelter and Zinc .- We have relapsed here into a very quiet state of affairs, the few sales of Common Domestic transpiring few sales of Common Domestic transpiring being effected at 6¢ @ 6½¢. Silesian at present prices is less eagerly bought. We quote the latter, nominally, 6½¢ @ 6½¢, and Bergenport from Lehigh Ore 10¢. "London, December 6.—The market for this metal remains steady, ordinary Silesian brands offering at £19.12/6 to 15/. English Hard continues in but slight request at previous quotations." American Sheet Zinc, 8¢

Nickel-Remains unaltered at \$1.40. Antimony.—No change can be reported a this metal, which remains steady at 16¢ @ 20%, according to brand.

IMPORTS

Of Hardware, Iron, Steel and Metals into the Port of New York, for the Week ending Dec. 16, 1879 :

Sheets, 481
Sheet iron, bdls., 771
Spinney J.
Old iron, a lot
Standard Oil Co.
Hoops, bdls., 2997
Stephens & Reynolds,
Old rails, tons, 391
Whitney A. R.
Bars, 312
Pig. tons, 10
Sheets, 1481
Williamson J. & Co.
Pis., tons, 300
Wolff, R. H. & Co.
Red iron, bdls. 248
Order, Hardware. Baldwin Bros. & Co. Hdw., pkgs., 5 Barclay & Livingston, Grindstones, 50 Boker Hermann & Co. Boker Hermann & Co.
Hdw., cs., 7
Hdw., csks., 17
Brackner & Evans,
Galvanized wire netting, rolls, 95
Buckley J. H. & Son,
Machinery, cs., 2
Burkinshaw W. C.
Hdw., cs., 2
Cheney Bros.
Machinery, cs., 5
Curley J. & Bro.
Cutlery, csks., 5
Cutlery, cs, 1
Dale John G.
Hdw., pkgs., 4
Machinery, pkgs., 2
De Witt Wire Cloth Co.
Mdsc., pkgs., 2 Order, Bar iron, bdl ., 947 Bars, 11,064 Fish plates, kilos. Hoop iron, bdls., 12,-Iron, sheets, 1393 Oil barrel hoops, Mdse, pkgs., 1
Dreyfuss, Weiller & Co.
Hdw. cs., 4
Ferris F. J. C. & Co.
Hdw., cs., 2 2997 Old chains, tons, 100 Old iron, bars, 1161 Old rails, a quantity Old rails, 3393 Old rails, kilos. 989, Hdw., cs., 2 C Graef Cutlery Co. Mdse., pkgs., 6 Henderson Bros. Hdw., pkgs., 7 Hermann H. & Co. Mdse., pkgs. 676 Old rails, pieces, 3366 Old rails, pcs., 2732 Old rails, tons,

Old rails, tons, 41334 Old scrap rail iron, tons, 200 Ore, tons, 565 Pig, tons, 47071/2 Scrap, a lot Scrap, kilos., 81,638 Scrap, tons, 1670 Sheet iron, bass, 216 Sheet iron, bdls., 3161 Spiegeleisen, kilos.. Thyra emery stone McCoy & Co.
Hdw., csk., 1
Hdw., csk., 1
Hdw., csk., 1
Menendo Jose,
Wire, cs., 2
Merchanis' Dispatch Co.
Guns. cs. 4 Spiegeleisen, tons,

Wire rods, bdls., 211 Wire rods, pkgs.150 Metala. Cort N. L. & Co. Tin plates, bxs., 105 Hatton, Watson & Co. Tin plates, brs., 105
Hatton, Watson & Co.
Old junk metal, &c.,
a jul
Jackson R. D.
Bar tin, bbls., 5
Maillard H
Tin leaf, cs., 2
Merchants Dispatch Co.
Tin plates, brs., 500
Meyer Mo. itz,
Lead, bars, 2928
Nevada Brak,
Tin, slabs, 646

Hdw., pkgs., 4 Perkins & Co. Cannel coal, tons, 106
Rubber Comb Co.
Hdw., cs., 1
Schuyler, Hartley &
Graham, Nickel, cs., r Phelps, Dodge & Co. Tin plates, bxs., Guns, cs., 2 Stewart A. T. & Co. Machinery, cs., 3 Tillotson L. G. & Co. Galvanized wire, lo Willett & Hamlen, Yellow metal, cs., 180 Wilson Packing Co. Tin plates, bxs., 280

Order, Copper, bbls., 45 Copper, csks., 393 Ingot copper, csks., Ward Asline. Ingot copper, caks., 154 stin, caks., 50 Lead, tons, 785 Tin, ingots, 650 Tin plates, bxs., 21,871 Hdw., csk., r Hdw., csk., r Wetzlar M. Mdse., pkgs.. r Wiebusch& Hilger Hdw. Co. Cutlery and hdw., "Willis." Tin and terne plates Tin and terne places, bxs., 264 Tin plates and tag-gers, bxs., 587 Tin, slabs, 466 Zinc plates, 5135 "Wiffis,"
Machinery, cs., 2
Wolff H. & Co.
Mdse., pkgs., x
Order,
Anvils, 185
Arms, cs., 2
Chains, csks., 37
Gun barrels, cs., x
Hdw., csks., x Steel.

American Mfg. Co.
Cask, r.
Brown William,
Bundles, 269
Lockwood A. J.
Bars, 48
Bundles, 68
Cask, r.
Mount James T.
Packages, 3
Naylor & Co.
Bar, x.
Ba American Mfg. Co. Hdw., csks., 15 Hdw., pkgs., 3 Machinery, cs., 16 Nails, csks., 2 Round Cannel coal, Iron. Carpenter J. O. Bars, 98 Corbin P. & F.

Order, Bundles, 237

Corbin F. & F.
Pig, tons, to
Drexel, Morgan & Co.
Hoops, bdis., 5994
Lee, Jas. & Co.
Pig, tons, 200
Morton, Bliss & Co.
Old Rails, 3637
Mulcally & Hopkins,
Sheet Iron, bdls., 84
Sheets, 240
Netherland Trading Society. Ogden & Wallace, Bar fron, bdls., 512 Pierson & Co. Bars, 6862

EXPORTS

Of Hardware, Iron, Machinery, Metals, &c., from the Port of New York, for the Week ending December 16, 1879:

Quan. Val.

414

Danish West Indies.

Quan. Val.
(flassware, cs. 17 \$412
Ptlm., gals...3900 504
Hdw., cs. 63 694
Nails, kegs... 72 395
Carriage... 1 111
Mach. oil, gals. 200 160 Hamburg. Humbury.

Mach. oil. bbls 270
Sew. mach.,68 459
6,085
Mf. iron, pkgs. 13
66
Hdw., cs....... 50
Helting, bales. 3
898
Mach y, cs..... 34
4,825
Ag. imp., pkgs 508
Ptlm., gals. 187,006
16,360 Africa.
Ptim., gals... 1590
Nails, kegs... 92
Rifles, cs... 2
Guns. cs... 2
Mf. iron, pkgs. 94
Ag. imp.,pkgs. 2
Revolvers, cs... 3
Glassware, cs... 11
Sew. mach., cs... 2
Brass ket., csk... 1
Hdw., cs... 59
Cartridges, cs... 5
Tinware, cs... 4 Africa. Antwerp. Ag. imp., pkgs 9 483 Ore, tons.... 131 788 Hdw., cs.... 36 453 Lub. oil, bbls. 375 2,891

Hayti. Rotterdam. Mach'y, pkgs. 41 Cutlery, cs... 4 Wagons ... 2 Sew. mach.,cs 10 Ptlm., gals.519,244 40,460 Lub. oil, gals..3833 556 Bristol. Sew. mach., cs 10 Silverware, cs 1 Nails, kegs ... 56 Hdw., cs ... 141 Ptlm., gals ... 7637 Mf. iron, pkgs 13 Iron tanks ... 11 Iron, pkgs ... 21 Bremen.

Lub.oil, gls.27,827 Ag. imp., pgs. 3 Glassw'e, pgs 4 Mf. it on, pkgs 4 Hdw., pkgs. 28 Sew. mach., 68 China. Coal, tons... 300 Saddlery, cs... 3 Ag, imp.,pkgs 47 Hdw., cs... 79 Glassware, cs. 489 Ptlm., gals.653,070 Mf, iron, pkgs 152 Iron, bxs... 7 Dutch West Indies. Ptlm., gals....2371 Glassw'e, pgs. 14 Tinware, pkgs 6 Saddlery, case 1 Hdw., pkgs... 35 Pumps, pkgs... 2 Revolvers, bxs... 2 Sew. mach., cs. 16

Hull.

Gibraltar.

Cette.

Liverpool.

tean Colonies.

Havre. Havre.

Pitdware. 6 2,400
Hdw., pkgs. 8 108
Ag, imp., pgs. 39 3,170
Lub. oli, gals., riot. 650
Copper, cks. 18 5,000
Ptlm., gals., 228,720 15,400
Mach Y, pkgs. 32 2,500
Pumps, pkgs. 2 150
Sew. mach., cs 10 1,200
Windmills, bxs 5 200 Ptlm., gals. 141,514 13,000 Ptlm., gls.. 110,000 11,500

Mexico.

Ptlm., gals ... 5500 1,159 Carriages... 27 6,266 Ag. imp., pkgs 313 4,170 Mach'y pkgs. 109 780 Hdw., pkgs... 369 5,082 Coal, tons... 204 Mach'y, pkgs. 246 Sew. mach., cs 115 Mf. iron, pkgs 128 Glassw'e, pgs. 67 Pistols, cs.... 4 Ptlm., gals. 104,578 9,187 Liverpool.

Belting, cs.... 4 1,438
Brit. ware, cs. 1 175
Silverware, cs. 2 250
Frlim, gals, y3,776 53,961
Sew. mach., cs. 2 123
Pitdware, cs. 2 950
Wringers, cs. 21 420
Hdw., cs... 107 7,971
Mach'y, cs... 42 3,800
Wire rope, lons 20 3,500
Metalg ds, cs. 4 500
Brake flxt., cs. 4 400 Iron, pkgs... 165 R. R. car 1 R. R. car Cartridges, es Tel. mtls., bxs Nails, kegs. Gas fixts, pgs. Pumps, pkgs. Tinware, pkgs Hdw., pkgs. Cutlery, pkgs Rifles, cs. Ptim., gals. 17 British North Amer-Coal, tons... 200 650 Glassware, cs. 54 375 Nach'y, cs... 10 1,300 Copper, cs. M.f. iron, pkgs 7 160 Sew. mach., cs 10 160 Schot, kegs... Shot, kegs...

British East Indies. Pilm., gals. 230,000 24,180 Sew.mach., cs 93

**Mf. iron, pkgs 350

Hdw., cs. ... 81

Pulm., gals. .79, 100 8,000

Scales, pkgs. 82

Verlage cage. 8 Scales, pigs. . 82 Notions, case. z RR. mtls., pigs. 2709 Mach'y, pigs. 179 Tel. mtl., pigs. 179 Tel. mtl., pigs. 179 Pilm., gals. 139800 Gas fixk., cs. . z Lead, rolls. . 12 Nails, kegs. 75 Nails, bxs. 300 Coal, tons. 439 Mach. oil.gals. 3363 Glassware, cs. 34 Iron safes. . . 2 British West Indies. Nails, kegs.... 132 690 Notions, cs... 9 372

Natios, ses. 9
Hdw., cs. 113
Mf. iron, pkgs 17
Mach'y, pkgs. 11
Ag. imp., pkgs 5
Ptlm., gals. 10,576
Carrages. 10
Iron safe. 1
Sew., mach., cs. 22
Brit., ware, cs. 1
Glassware, cs. 6
Guns, case 1 Grindstones 258
Iron, pkgs 2775
Cop. tubes, cs. 2
Ag. imp., pks. 19
Truss h'ps, sets 9
Tacks, cs. 2 Porto Rico. Ptlm., gals... 8617 Ag. imp., pkgs 6 Iron safes ... 2 Cop. pipes, cs. 5 Pumpe, pkgs. 2 RR matls., pgs 278 Natils, kegs... 139 Notions, cs... 2 Sew. mach., cs. 5 Hdw cs. 5 United States of Colombia. Hdw., cs.

Exting'h's,pgs 5 Spikes, kegs. 29 Alexandria. Tel. mtl, pgs. 4
Nails, kegs. 23
10
Nails, kegs. 23
10
Nails, kegs. 23
10
Nails, kegs. 23
10
Nails, hox. 1
10
Nails, hox. 1
10
Nails, hox. 1
10
Nails, hox. 2
1 Ptlm., gals. 270,000 33,000 Windmills,pgs 28 400 Santander. Ptlm., gals...70,000 7,250 Hdw., cs. ... 10 220 Cadis. Rifles, case... 1 50 Ptlm., gals.. 20,000 1,600 Constantinople.

Valencia.

Venezuela.

Glassware, cs. 39
Sew. mach., cs. 41
Cartridges, cs. 3
Nails, kegs. 3
Slates, cs. 12
Shoe nails, cs. 69
Firearms, cs. 1
Shot, kegs. 10
Carriage 1

Ptlm., gals. 116,780 12,650 Ptlm., ga s. 168,380 18,742 Brusil. Ptlm., gals...98,200 13,175 Mach'y, pkgs...27 2,000 Mach'y, pkgs...27 Barrows,pkgs 228 Cutlery, cs.... 6 Ag. imp., pkgs 25 Irons, cs

Carriage 1 Mach'y, pkgs. 14 Cutlery, cs. . . 6 Pumps, pkgs . . 2 Hdw., cs. . . . 58 Glasgow, Lub. oil, gals. 856 316 I rolls, case... 1 200 Hdw., pkgs... 102 1,980 Cisplatine Republic. London. Lub. oil, gls. 15,000 2,38 Lub. Oil, gis. 15,000 2,38 Mach'y, cs... 3 84 Pumps, pkgs. 3 7 Buggies ... 3 50 Handspikes ... 350 12 Sew. mach., cs. 822 12,78 S. rollers, cs... 11 98 Slates

for Old Metals are as follows:

follows:

per b. \$0.17½ \$\frac{1}{2}\$ \tag{1.8½} \$\frac{1}{2}\$ \tag{1.8½} \$\frac{1}{2}\$ \tag{1.9}\$ \tag{1.9} \tag{1. ter, No. 2. .. ught Iron ... The prices current for Rags, &c., are as No. 2
Seconds...
Mixed, Woolen...
Soft, do...
Mixed Rags...
Gunny bagging...
Jute buffs.
Kentucky bagging
Book Stock...
Nowspanses Book Stock.
Newspapers
Waste Paper and Scraps.
Kentucky Bale Rope
Tarred Shaking
Grass Rope

COAL

The trade during the past week has been The trade during the past week has been very flat. The warm weather, the approach of the holidays, and the fact that dealers are very well stocked, are some of the causes which have operated to produce this state of things. Only those are in the market who are pushed by some necessity and must have Coal at once. In the meantime the companies are stocking Coal and preparing for the payal supporting which preparing for the usual suspension which marks the close of the year. The extremely warm weather has had its influence upon the retail trade and made it exceedingly dull; hence the retail dealers have not been in the market. The weekly product still keeps up to about 500,000 tons, at which rate it seems impossible for Coal to hold the windmills, or serious french West Indies.

British Possessions in Africa.
Plane, gals...5500 1,150 Glassw'e,pkgs 33 168 Ag. imp., pkgs 313 4,170 Fig. 1.50 Proceedings of the process of t cept, as we have seen, those who are forced into the market, the stiffness in prices is not a very difficult matter to keep up.

The daily papers are talking about an agreement among the companies to suspend operations from Christmas to the 5th of operations from Christmas to the 5th of January. The reporters have apparently been very effectively "stuffed," and appear to look upon this arrangement as a sort of combination which will have an effect upon prices. A suspension of about this length is usually considered necessary at this time of year. Its effect upon the problem of the control of market may be put down as nothing. Quotations are unchanged. Lehigh Lump, \$4: Broken and Egg, \$3.60; Stove, \$4, and Chestnut, \$3.75. The softer coals are quoted that the first firs Chestnut, \$3.75. The softer coals are quoted about 40¢ @ 50¢ lower than these figures for the larger sizes. The Philadelphia and Reading quotations for Stove range from \$3.90 @ \$4.15. In general, quotations are merely nominal. Freights are off a little. Harbor is quoted at about 18¢; Boston, \$1.60 @ \$1.65; Portland, \$1.35 @ \$1.40, and discharged New London, 65¢ @ 70¢; Providence, 80¢.

PHILADELPHIA.

Office of The Iron Age, 220 South Fourth St., PHILADELPHIA, December 16, 1879.

Pig Iron.—We have to note increasing firmness in the tone of the Iron market, with sales to a very large amount, all at full prices. It is impossible to state what quantity has been sold during the week, but the large companies are understood to have leading companies are understood to have entered orders for at least one-third of their product for the coming year, and have de-clined other offers at prices which two or product for the coming year, and have declined other offers at prices which two or three weeks ago would have appeared very tempting. The quotations for furnace delivery, 1880, have been \$23, \$20 and \$30 for the three numbers, but it would now be difficult to place orders to any extent unless at prices current at time of delivery, and a considerable amount of business has been done on these terms. For spot delivery prices are comparatively easy, and buyers have no difficulty in placing their orders at some concessions from the figures above has been no important transactions, but, in sympathy with the general market, prices are firmer, although not quotably higher. At this season there is no probability of much activity further than a general desire to secure material for future delivery, at or near current rates, from which it is evident that higher prices are anticipated. For Philadelphia delivery we quote No. I Foundry, \$30 @ \$32; No. 2 do., \$20 @ \$30; Gray Forge, \$28 @ \$29.50. Market very firm.

Muck Bars.—Business has not been 18,000 the product for the coming year, and have declined other offers at prices are prices are delivery, and all that is offered is quickly picked up at strong figures, while producers, as a rule, are not disposed to make any large contracts. Stocks are light, furnaces.

Scrap Blooms (2464 fb), \$52 @ \$57; Northern Ore Blooms (2240 fb), \$52 @ \$54; best quality Charcoal Billets (2240 fb), for wire and steel purposes, \$80 @ \$85; Bars, \$85 @ \$87.50; Sheet Iron Blooms, cornered (2464 fb), \$75 @ \$80; Cold-blast Charcoal Plate Blooms, \$80; Cold-blast Charcoal Plate Blooms, \$875 @ \$77.50; run out Anthracite, \$67.50 grades may be fairly quoted as follows:

Structural Iron.—In this branch there is nothing of importance doing in the way of new business, although the indications point 844 to a very active trade after the turn of the year. In the meantime, manufacturers are

The Rag and Paper Stock market remains active at our former quotations.

The purchasing prices offered by dealers for some weeks to come, even if no new for some weeks to come, even if no new business comes in. With such a bright out business comes in. With such a bright outlook as there is in all other branches of business, however, it is very unlikely that plate mills will be an exception. Prices are unchanged, as follows: Tank, 4¢: C. No. 1, 4½¢; C. H. No. 1 Shell, 4.5¢; Flange, 5.5¢; Solid Fire-box, 6.5¢; Best Bloom, 7¢.

Sheet Iron. - The demand is quite satisfactory for the season, and manufac-turers will continue running full time up to the Christmas holidays. Stocks are unusually small in first hands, and it is believed that merchants are also well sold up, so that the demand is likely to commence very early in the coming year. There is already a good deal of inquiry for large lots for spring delivery, but there is not much disposition to enter orders too heavily at present, as the increasing cost of raw material and other Best Blooms, Galvanized, 10 % discount; second quality, 20 %.

Bar Iron.—There is a steady market, and full prices are readily obtainable for good qualities. A very active demand is looked for after the turning of the year, and a good many orders have been refused where deliveries were to extend into the spring. For immediate delivery there is no special urgency in the demand, but with such a heavy consumption as seems to be going on in all directions there can be no doubt as to the immediate future. For Skelp Iron there is a good deal of inquiry, and several sales have been effected recently at the state of the second several sales have been effected recently at the second several sales have been effected recently at the second several sales have been effected recently at the second several sales have been effected recently at the second second several sales have been effected recently at the second seco ly at about 3.5¢. Buyers are still in the msrket, but manufacturers are not desirous for lots beyond a few hundred tons each. We quote: Skelp, 3.5¢ @ 3.6¢; Refined Bars, 3.2¢; market firm.

Steel Rails—May be regarded as almost nominal. Manufacturers cannot be induced to name a price for quantity, so that quotations are no real indications of actual business. Latest sales reported were at \$66 @ \$70 at mill

Iron Rails.—Business has been rather quiet during the week, although buyers are in the market for a moderate amount. Prices seem to be beyond buyer's views, and although business has been done at \$55 at mill for heavy sections, orders to the extent mill for heavy sections, orders to the extent of four or five thousand tons could be placed at \$52 @ \$53 at mill. As a rule manufacturers are tolerably well supplied with orders, although as above noted there are, in exceptional cases, sellers for prompt deliveries at somewhat lower rates than were paid a couple of weeks ago. With advancing markets abroad, there is little doubt that prices here will stiffen at an early date. Present here will stiffen at an early date. Present quotations at mill are \$53 @ \$55 for heavy ctions.

Old Rails.-The market has been unusually active during the week, and enormous amounts have changed hands since date of our last report. The transactions appear to have been largely for spring delivery, prices for which have materially advanced, say from \$32.50 @ 34. Holders advanced, say, from \$32.50 @ 34. Holders are asking higher prices now, and there is very little disposition to sell even at outside figures. For spot delivery there is less urgency, and one or two lots could be obtained to-day at \$32.50, but buyers do not appear to take hold freely, unless as stated for late deliveries.

Scrap Iron.—The market is more active and better prices have been obtained, say \$34 @ \$36 for Wrought and \$22 @ \$24 for Cast.

Muck Bars.—Business has not been heavy, owing to the scarcity of supplies and the firmness exhibited by holders. A few small lots have changed hands at about \$48 at mill, but \$50 is the usual asking price.

ducers, as a rule, are not disposed to make any large contracts. Stocks are light, furnaces are generally sold ahead, ores are scarce and tending upward, as are also coke and coal, while the indications are that the consumption in 1880 will exceed that of any Blooms.—Prices are unchanged, and, with a scarcity of stock, the market is firm at the following figures: Sunken Scrap Blooms (2464 lb), \$55 @ \$57; Northern mon qualities, and, as the former are in light supply, they are held with great ten-

Standard Red-Shorts
Good Neutral Gray Forge
Good Cold Short Gray Forge
No. 1 Bessemer
Eastern Cold Blast Charcoal
H. R. Charcoal, Hot Blast
H. R. Charcoal, Cold Blast
Blcoms—Charcoal, Cold Blast

Packages, 250 axton & Seabury, Packages, 3 footford W. O. Bars, 23 Bundles, 135 Cases, 3 reder, Bundles, 237 Cases, 3 reder, Bundles, 237 Cases, 3 reder, Bundles, 237 Cases, 3 reder, Cases, 3 reder, Cartridges, cs 16 640 Ptlm., zals.838.153 65.154 OLD METALS, PAPER STOCK, &c.

Old railway beaf spring steel, tons, 110 Steel rods bdbs., 341

With

Age.] 1879. rd the dy at

heavy r Best er on

no alternative; and it is not strange, there fore, that buyers are anxious to anticipate future wants, nor, on the other hand, that manufacturers are indifferent about selling. We repeat former quotations, that is, for small lots for immediate delivery, as follows: Merchant Bars, well assorted orders, 3¢, 60 days, 2 % off for cash; Sheet Iron, \$4.50 for No. 24; Skelp Iron, \$3.50; Plate Iron, \$3.80 to \$4.00.

light, as it always is this month, but prices are firm, with a tendency to go higher. We repeat former quotations, \$4 and \$5 \$7 keg, respectively, in 100-keg lots.

Railway Spikes-Are still quoted at 31/2 \$ The strict and the st year for railway supplies, as, in addition to stocks being light in hands of old companies, a great many new roads are contemplated.

Wrought Iron Pipe .- While the mills generally are still reported busy, orders are not coming forward near so freely as some time ago, and prices are easier, although untime ago, and prices are easier, although unchanged. We continue to quote discount on Gas and Steam Pipe at 25 %. The discount on Bolier Tubes has been increased to 15 @ 20%. Oil-Well Casing and Tubing unchanged. Tubing, 28¢ to 30¢ net. Casing,

Rails-The market for Steel Rails con tinues very firm, and while, so far as we can learn, there have been no recent sales here, learn, there have been no recent sales here, it is doubtful whether purchases could be made under \$70, cash, at mill, for delivery next year. Steel Blooms and Steel Billets are also very firm and advancing. Old Iron Rails continue scarce, hardly any American offering, and foreign are higher. The latter may be quoted at \$37 @ \$38, delivered in Pittsburgh. livered in Pittsburgh.

Steel.-Notwithstanding we are now in what is usually the dull season, there is no apparent abatement in the demand for Mer-chant Steel, and while prices remain un-changed, they are strong, with a tendency to advance, owing to the increasing cost of

Muck Bar -There appears to have been but little done recently, as we have heard of no late sales, but prices are firm in sympathy with Pig Iron. The most of the mills have sufficient rolling capacity to absorb all the Muck Bar they can make, and this accounts for the limited offerings. We quote at \$50 @ \$53, cash, at mill, according to quality.

Scrap.-There is a continued good demand Serap.—There is a continued good demand for Scrap Steel, and prices are firm, but unchanged. Car Springs, \$35, net; Car Axles, \$42 @ \$43, net. Scrap Iron is not so much inquired for, but the market is firmer in tone, in sympathy with Pig Iron. No. I Wrought Scrap, \$38 @ \$40, net; Boiler Plate, \$38 @ \$40, net; Machinery Metal, gross, \$25; Cast Borings, gross, \$17 @ \$18. Old Car Wheels are difficult to quote, as there have been no sales reported recently. We are cognizant of one lot on sale at \$34, gross.

Window Glass .- Notwithstanding the close of the year is so near at hand, there is still some inquiry; and so great has been the demand ever since the factories started up, September 1st, that there is scarcely any stock in first hands. Manufacturers are now very anxious to work up a stock for the spring trade, as one of them remarked the other day he did not care if he did not get a single order for two months. Prices are firm, but unchanged. Discounts 60 to fo and 5 %. There is to be a meeting of the National Window Glass Association in Washington City next month, at which it is possible there will be some changes made in the card and discounts as well.

Coke.-There is no abatement in the de-. There are a good many wanting to contracts for future delivery, which manufacturers, as a rule, are declining, unless at extreme prices, which no one seems willing to pay. The policy of the latter is immediate or early delivery to sell only for immediate of early delivery, so as to keep themselves in position to take advantage of an advance should it take place, as seems probable. Quotations may be fairly given at \$1.60 @ \$1.75 per ton, run of ovens, and \$1.90 for selected. Some, it is said, would not contract for future delivery

Coal.—Since our report of last week, be-tween 6,000,000 and 7,000,000 bushels have been started down the river, the most of it consigned to Southern markets. For the first time since last apring there was water enough to let out loaded boats, all former hipments during the time in question hav any when it did, as the indications are that cold weather has come to stay, and we should not be surprised if the river should be full of ice, or, indeed, frozen over within the next week or two; moreover, the coal was badly needed in the down-river mar-kets, as stocks of Pittsburgh coal are very much reduced, and then our coal men need the money. Another good effect of these recent large shipments is that it will afford employment for the miners.

Petroleum.-There has been particularly important developed during the past week; business here in Pittsburgh has been less active, and prices have declined slightly. The situation, in one important respect, is less favorable. The shutting down of many of the refineries must reduce the consumption and increase the visible supply, which is very large. However, there are those who have confidence in the article; they predict that the production will fall off largely during the winter, and that prices, in consequence, will rule higher before spring. It is very evident, however, that speculators will do the most of the busi-

CHATTANOOGA.

Office of The Iron Age, Market and 8th Sts., CHATTANOGGA, Dec. 15, 1879.

General business has, contrary to usual experience at this season, decidedly im-proved within the past week. The advance Nails.—The situation remains much the same, with the exception of a firmer feeling in sympathy with Iron and a disposition to contract for future delivery, with a sale of 5000 kegs reported for delivery next year at card rates. We continue to quote at \$3.65, 60 days, 2 \$\frac{1}{2}\$ off for cash, and an abatement of 10\$\frac{1}{2}\$ keg on lots of 200 kegs and upward.

Horse and Mule Shops—The same successing up of the importation business in that line, has already been felt in this district, and is imparting a firmer tone to the trade. The general activity in manufactures is on the increase, and more interest is manifested by parties having experience and capital than was ever known before. The growth seems a healthy one, the best evidence of which is the fact that the demand is greater than the supply, and the former grows faster than present in metals in Great Britain, and the conse and several severe storms of rain, accompanied by wind and thunder, have occurred. Streams are full and boatmen busy.

Pig Iron. - The market is decidedly firm No concessions are asked, and none would be granted on quotations. We confidently be granted on quotations. We confidently look for an advance after the holidays. The feeling throughout the district is of the best, and buyers are more anxious than they were a week back to take large lots. We conna week back to take large lots. We continue last quotations: Coke—No. 1 Foundry, \$28 @ \$33: No. 2, \$25 @ \$28; Gray Forge, \$28 @ \$30; White and Mottled, \$25. Hot-blast Charcoal—No. 1 Foundry, \$28 @ \$33; No. 2 ditto, \$25 @ \$28; Gray Forge, \$27 @ \$28. Cold-blast Charcoal—Car Wheel Metal, \$30 @ \$40.

Muck Bar, &c .- No Muck Bar in market. Old Rails continue nominal. Wrought Scrap, \$28 @ \$33; Old Car Wheels, \$25.

Ores—Are in fair supply. Brown Hematite \$2 @ \$2.75 per ton, 50 to 56 % Iron; Red Fossil, \$2 @ \$2.25 on cars or on wharf from barges.

Nails—Continue strong, and the mills se-cting their orders. We continue to quote \$3.75 rates.

Manufactured Iron.—There is no special activity in any line. All are firm at quotations, and plenty of work ahead at the mills. Bars at \$3.50; Railroad Spikes, \$3.40; Track Bolts, \$4.75; Trestle Bolts, \$5.50.

Coke—Continues very strong. The Northern demand from Indiana and St. Louis is growing, and local consumers and projectors are likely to find some difficulty in securing are thely to and some dimentry in securing supplies at living rates. There is much talk of extending the product, but so far it has been only talk. We quote Furnace at \$3.50 per ton; Washed Foundry, 12¢ per bushel.

Iron Rails-Nominally are quotable at \$50 @ \$58 per ton. There are none here for transient buyers, contracts ahead cover-ing the capacity of the Chattanooga and Atlanta mills

Steel Ralls—Are in about the same situa-ion as Iron. We quote at \$60 at the mill, and strong. Contracts could hardly be and strong. closed at that figure.

BOSTON.

DECEMBER 13.—The more confident tone and improved inquiry for American Pig Iron at the shipping ports is reflected at this point. But the large arrivals of Scotch and English Iron continue to weigh heavily upon the market, the receipts since our last report having footed up a total of 3460 tons. We quote shipping port prices of American Pig as follows: \$29 @ \$30 for No. 1 X; \$28 @ \$29 for No. 2 X; \$27 @ \$28 for Gray Forge, and \$26 for White and Mottled. For delivery next year an advance of \$1 @ \$2 \$0 ton above these figures is demanded. Manifactured Iron is in moderate demand and prices and well sustained. Copdemand and prices and well sustained. Copper is quiet and steady, and we continue to quote 21½¢ @ 21½¢ for Ingot. Manufactures are without material change, and we continue to quote Copper Sheathing at 28¢; Braziers at 30¢; Bolts, 30¢; Bottoms, 35¢; American Yellow Metal Sheathing, 17¢ @ 18¢; Yellow Metal Bolts, 20¢, and English do., 13½¢ in bond. Antimony is quiet and steady at 17¢ @ 18¢. Lead is firm, and we quote 5½¢ for large lots of Pig, and the Boston store price is 6¢. Manufactures are firm, quoting Lead Pipe, 7½¢; Tin-Lined Pipe, 15¢; Bar Lead, 7¢; 7 1/4; Tin-Lined Pipe, 15¢; Bar Lead, 7¢; Sheet Lead, 8¢; Block Tin Pipe, 40¢; all of these are subject to the usual trade or 10 % discount. Spelter is a trifle easier, and in the absence of much demand is offered at 6ϕ @ $6 \frac{1}{2} \phi$. Tin continues dull at about $21 \frac{3}{2} \phi$ @ 22ϕ for Straits; Banca at $23 \frac{1}{2} \phi$; and English L. & F. at 21 1/2 @ 22 .- Commercial Bulletin.

ST. LOUIS

Messrs. CARD & HOFFER, under date of December 13, write as follows: Trade continues good for the season. Mill Irons are eginning to get scarce in this market, and unless there is an accumulation in the next 60 days, we expect better prices. We continue quotations of last week

CHARCOAL HOT BLAST. COKE AND COAL Missouri Southern, No. 1. Ohio River, No. 1.... Jackson County, No. 1... Hocking Valley, No. 1... No 2, \$1 to \$2 per ton less. COLD BLAST.

CINCINNATI.

Messrs. E. L. HARPER & Co., under date of Dec. 15. write as follows: An increase inquiry and freer movement, with generall firmer feeling, have been the most salien characteristics of the market during the weel past. The impression is becoming stronger that now is a good time to replenish stocks. The decided upward tendency looked for about January 1 appears to have already set in, and it is generally believed that this

| = | | | |
|---|--------------------------------|-------------|------|
| | HOT-BLAST FOUNDRY. | | |
| | Hanging Rock C. C., No. 1 | 38.00 @ 4 | 2.00 |
| | " C. C., No. 2 | 36,00 @ 3 | 8.00 |
| | Southern C. C | 38.00 @ 3 | 0.00 |
| | Southern C. C. No. 2. | 36.00 @ 3 | |
| | Strong Neutral Coke | 38,00 @ 3 | |
| | No. 2 | @ 3 | |
| | | 37.00 @ 3 | |
| | | | |
| | Hocking Valley S. C | 37.00 (1) 3 | 6 |
| | NO. 2 | 35.00 (0 3 | 6.00 |
| | | 35.00 @ 3 | |
| | | 33.00 @ 3 | |
| | Open Silver Gray | 32.00 @ 34 | ,00 |
| | FORGE IRONS. | | |
| | Hanging Rock, C. C. Gray Forge | @ 3 | 8,00 |
| | Coke. " | 35.00 @ 30 | 5,00 |
| | Cold-Short, Gray Forge | 33.00 @ 36 | 0,00 |
| | CAR WHEEL AND MALLEABLE | | |
| | | | |
| | Hanging Rock | 47.00 @ 50 | |
| | | 43.00 @ 47 | |
| | Lake Superior | 42.00 @ 43 | 3.00 |

LOUISVILLE.

Messrs. Coleman & Bro., 145 West Main street, under date of December 10, write as follows: Notwithstanding the continued low price of foreign Irons, the impression is growing that higher prices will prevail here as soon as the New Year's demand develops itself, and many buyers are entering the market now. We report large sales for the season, especially of Mill Irons, at full market rates below, all cash, at depot here :

No. z Charcoal Foundry.
No. z Coke
No. z "
Gray Mill
Silver Gray \$37.00 @ 38.0

Messrs. Geo. H. Hull & Co., under date of December 12, write us as follows: The market shows a better feeling and prices are stiffening. We quote, for cash, as follows:

| FOUNDRY IRONS. |
|---|
| No. 1 Hanging Rock, Charcoal\$38.00 @ 40.00 No. 3 36.00 @ 37.00 |
| No. 1 Southern, Charcoal 36.00 @ 37.00 |
| No. 1 Hanging Rock, Stonecoal and |
| No. 2 Hanging Rock, Stonecoal and |
| Coke 35.00 € 36.00 No. 1 Southern, Stonecoal and Coke 35.00 € 36.00 No. 2 35.00 € 36.00 "American Scotch" 31.00 € 32.00 Silver Gray 30.00 € 32.00 |
| MILL IRONS. |
| No. 1 Charcoal, Cold-short and Neut'l. 22.00 @ 22.00 |

mas holiday season, the volume of trade keeps up above the average. Country orders are satisfactory, both as to size and number. During the past week the city has been enlivened by the presence of thousands of strangers, who availed themselves of the reduced passenger rates in vogue during the Grant festivities. Country buyers were numerous, which no doubt accounts in a degree for such unusual activity at this season of the year. Prices have been well maintained, and the cutting, which it was feared would begin in December, has not as yet taken place. It is safe to tredit that yet taken place. It is safe to predict that December will go out without witnessing the slightest reduction from card rates. Nails are in good request at \$3.75 for 10d. Bar Iron finds ready sale at from \$3.30 @ \$3.40 rate to wholesale buyers. The advance in Carriage Bolts and Hinges has been established, and we can learn of no one who is disposed to sell at anything approximating old prices. The heavy rains at and above Pittsburgh, and the same state of weather here, encourages us to hope for low-priced coal during the rest of the winter. The morning papers report that 5,000,000 bushels have started from Pittsburgh for distribution from this point. The outlook for trade after the 1st of January is unusually good. The high prices obtained for cotton and sugar in the South will make business good in that section.

BALTIMORE.

W. N. WYETH, Iron and Steel Merchant, 46 and 48 South Charles street, Baltimore, report us the following under date of December 15: Notwithstanding the near approach of the New Year, trade for the past week has ruled remarkably active, saleable stock being noticeably scarce. We quote the list firm and unchanged :

Ref. Bar Iron, 1 to 6 by 34 to 1 \$\text{P}\$ to 3\\ \text{B}\$ 3\\ \t and Square 2 to 2, Round and Square 3 to 2, Round and Square 4 to 2, Round Hoop Iron, 1/2 wide and upward. Band Iron, from 1/2 to 4 in. wide. Horse-shoe Iron. Norway Nail Rods. Black Diamond Cast Steel. Machinery Steel. Cast Spring Steel. Homogeneous Steel Plate 5 Common Horse Nails 7 R. R. Spikes, 5/479-16. Perkins Horse shoes, 8/2 keg of 100 lbs. Mule shoes.

| Baltimore Virginia | - 6 | 6 | | | | 5.6 | | | | 40.00 | 0 | 43 |
|-----------------------|-------|------|-----|----|---|-----|----|------|-----|-----------|---|-----|
| Anthracite | No. | I | | | | | | | | 29.00 | 0 | 30 |
| 5.6 | | | | | | | | | | 88.00 | | |
| 11 | No. | 3 | | | | | | | | 27.00 | 0 | 29 |
| | Mot | tled | 81 | nd | W | hit | 0. | | | 26.00 | 0 | 27. |
| Charcoal, | C. B. | Ble | 100 | ns | | | | | 0 1 | 75.00 | 0 | 80, |
| 3.5 | 06 | Bil | let | 8 | | | | | | 80.00 | 0 | 85. |
| Refined Blo | noma | | | | | | | | | 60.00 | 0 | 65. |

RICHMOND.

ness for some time to come, and they may succeed in pulling prices higher—there is no telling.

movement will continue, the point of difference in the opinions of buyers and sellers being as to the point that will be reached.

Our English Letter.

Review of the British Iron, Steel, Metal and Hardware Trades.

(From our Regular Correspondent.) LONDON, ENG., Dec. 1, 1879.

One of the principal events of the heb-domadal period which has elapsed since my last letter has been the astonishing outpouring of eloquence by Mr. Gladstone in Scot-land. His efforts last week were largely political, but he also touched upon economic subjects of international interest. In my last letter I said that he would never forsake the standard of free trade, and his speech of Thursday last amply vindicates the truth of my assertion. In alluding to RECIPROCITY.

he designated that theory as a "quack remedy" under the special protection of quack doctors, and added: "Among the quack doctors I am sorry to say there appear to be some in very high station indeed, and, if I am rightly informed, no less a person than her Majesty's Secretary of State for Foreign Affairs, who has been going about the country and indicating a very considerable expectation that possibly, by reciprocity, agricultural distress will be relieved. Let me tell you what is the efficacy of this quack remedy for your agricultural pressure—I will not call it distress, but for the pressure that is upon you, and for the struggle in which you are engaged. Pray watch its operation. You know what is said by the advocates of reciprocity; they always say, 'We are the soundest and the best free traders; we recommend reciprocity because it is the truly effectual method of bringing about free trade. At present America imposes enormous duties upon our cotton goods and upon our iron goods. Put reci-procity into play, and then if the reciprocity doctors are right America will become a free-trade country.' Very well, gentlemen; how will that operate upon your agricul-turists in particular? It will operate thus: If your condition is to be regretted in cer-No.: Charcoal Cold-short and Neut'l. 32.00 @ 33.00
No.: Stonecoal and Coke, Cold-short
and Neutral. 31.00 @ 32.00
No.: Stonecoal and Coke, Cold-short
and Neutral. 30.00 @ 31.00
No.: Missouri and Indiana Red-short. 32.00 @ 33.00
Neutral. 32.00 @ 36.00
Neutral. 32.00 @ 36.00 have protective prices to pay for everything that you used—for your manure, for
your animals, for your implements, for all
your farming stock—and at the same time
to have to sell what you produced in the
free and open market of the world? Bring
reciprocity into play, and then, if the reciprocity doctors are right the Americans will procity doctors are right, the Americans will knock off all these protective duties, and the American farmer, instead of producing, as he does now under a disadvantage—a heavy disadvantage—by having to pay protective prices for everything that constitutes his farming stock, will have all his tools, implements, manures, and everything else purchased in the free and open market of the world at free trade prices, and he will be able to produce his corn and compete with you a great deal cheaper than he does now." These are hard hits at reci-procity, but Mr. Gladstone was still more emphatic on the subject of PROTECTION, which he said, interalia: "It has been

as to which he said, interdia: It has been asked for by certain injudicious cliques and classes of persons, and by persons connected with the manufacturing industries. They want to have duties laid on manufactures; but here Lord Beaconsfield said, and I cordially concur with him, that he would be no party to the institution of a system in which protection was to be given to manufacturers and was to be refused to agriculture. That one-sided protection I deem to be totally inprotection was in full and unchecked force, and of examining the effect which it produced upon the wealth of the country. How, you will ask, do I mean to test the question? I mean to test it by the exports of the country, and I will tell you why, because your prosperity depends upon the wealth of your customers, that is to say, upon their capacity to buy what you pro-duce. And who are your customers? Why, the industrial population of the country, who produce what we export and send all over the world; consequently, when exports that because although round numbers: an our rail makers, but, I take it, for your car not be absolutely accurate, they are easy for the memory to take in, and involve no material error or fabrication of the facts. In 1830 the export of British produce was \$\mathref{13}\$ in the aggregate, very large. During the \$\mathref{23}\$,500,000. I will not say anything about

the population, because there are no accurate returns for the three countries. For 28 years, before 1850, the average of our exports, which in the five years before 1830 was £30,500,000, was only £37,000,000; and while the average of our exports for the five years I have mentioned was £39,-500,000, the value in 1830 was £37,000,000. The currency, certainly, was of less value, and I am quite willing to admit that the £37,000,000 was not as much then as it is 237,000,000 was not as interest of the now. But these facts substantially show that the trade of the country was stationary under protection; the condition of the people was, if possible, getting worse rather than better, the wealth of the country was than better, the wealth of the country was nearly stationary. I have shown you that protection made no addition and gave no onward movement to the profits of those who are your customers, on whose profits you depend, because, under all circumstances a considerable portion of what Englishmen and Scotchmen produce will some way or other find its way down their throats. That has been the case since we cast off the superstition of protection—since we discarded the imposture of protection." These statements give abundant proof of the fact that neither of the leaders of our political parties will at present give any sort of fact that neither of the leaders of our political parties will at present give any sort of countenance to protection, whether avowed as such or thinly veiled in the guise of reciprocity. I have touched upon the subject at some length because I apprehend it to possess a good deal of interest for many of your readers. Before I quit the theme I may say that the may say that the

AGRICULTURAL ENGINEERS.

who have an association, which includes all the principal implement and agricultural machinery manufacturers of Great Britain, have just had under discussion the policy or otherwise of taking part in the Melbourne Exhibition next year, Victoria being a protectionist colony, as you know. Mr. James Howard, of Beaford, presided over the meeting. You will remember that the members ing. You will remember that abstain from of this association did actually abstain from exhibiting at Philadelphia for the same reason, viz., exorbitant import duties. In this instance, however, it was decided that it was scarcely politic or advisable to take that rather extreme course, instead of which it was resolved to make known in Australia the views of the association, as a protest but at the same time to open up communica-tions with the Melbourne Exhibition Commissioners without delay. Compared with your tariff the Victorian duties are slight, and the authorities there have abandoned the proposed imposts on reapers and binders, as you will no doubt have had telegraphic intelligence. Taking the matter all round I think the Exhibition at Melbourne next year will be well attended by British exhibitors, who will then and there make a most de-termined effort to recover their old-time

of this country is holding its ground fairly well, all things considered. In Scotland the probability of renewed wages disturbances has had the effect of sending up prices a few shillings per ton, the speculators being of opinion that in such circumstances as are foreshadowed by the continued agitation of the men, the production would be much re-stricted. Hence their eagerness to dabble, with the result indicated. Up to the present, however, there is not only no decrease, but an absolute increase of the output of pig iron all over the country. This enlarged production has been so far attended by an argmented home demand that prices are every where firm, and there are no signs of any early "backwardation." The close of the Baltic, &c., shipping season and the smaller requirements of your market, might have been expected to bring about a temporary suspension of activity, but that has not been the case, the notable briskness of the shipthe case, the notable briskness of the ship-building branches and the general revival of confidence at home having fully counter-poised the lessened wants of the outer mar-kets. It is thus seen that we have, hitherto, maintained the advanced positions gained during the past two or three months, and all present indications serve to show that in the one-sided protection I deem to be totally intolerable, and I reject it even at the threshold as unwo thy of a word of examination or discussion. But let us come to two-sided protection, and see if that is any better, that is to say, protection in the shape of duties on corn, meat, butter, cheese, eggs and everything that can wit. I heard the other day from an M. P. be produced from the land. In order to see who has a large factory in Scotland, that whether we can here find a remedy for our whereas three months ago his firm was alwhether we can here find a remedy for our difficulties, I prefer to mere abstract arguments the method of reverting to experience.

Experience will give us very distinct lessons upon this matter. We have the power, gentlemen, of going back to the times when themen, of going back to the times when the power gentlement of the times when the power gentlement of the times when the present of the p chief reliance. The farmers, too, have an ex-cellent seed time, dry and free from the excessive autumnal rains with which we are generally inundated, so that they are dis-posed to be much more hopeful than they were a few months ago. Their confidence were a few months ago. Their confidence once restored they will go along cheerfully, and although that cannot be said to be yet the case, we shall get a capital rally where-with to begin the New Year. Our foreign advices lead us to the same conclusion, and owe to our friend protection, I will not allow that friend to take credit for what was done by railways improving the wealth of the country. I go to the time when there were no railways, that is the time before were no railways, that is the time before 1830. Here are the official facts, which I surprising number of projects of this kind will lay before you in the simplest form, and remember, using round numbers. I do —a fact which is not only of importance to

Up

BII





The demand for Scroll Saws has become so large that most Hardware dealers are get-

ting in the way of keeping them.

The trade commences in early fall and lasts all winter, thus helping business in the dullest season. There is probably not a Hardware store in the land but that could sell

dullest season. There is probably not a Hardware store in the land but that could sell some of these goods.

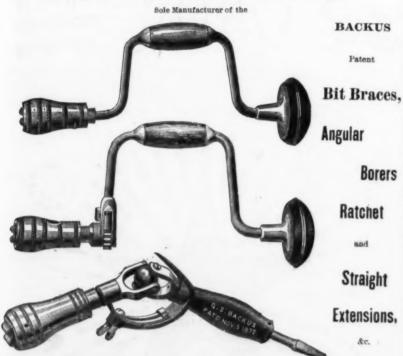
We are headquarters for hand and foot-power Saws, Saw Blades, Wood, Designs and all things pertaining to this business. The Lester Saw at \$3 and Rogers Saw at \$3 are now in universal demand. The Lester Saw consists of a Scroll Saw, Circular Saw, Drilling Attachment, Emery Wheel, Dust Blower, Turning Lathe and Tools, extra Saw Blades, Drill Points, Designs, Screw Driver, Wrench, &c. It has been greatly improved since last year, and is a very perfect machine. The Rogers Saw consists of a Scroll Saw, Drilling Attachment, Dust Blower, Designs, Drill Points, Saw Blades, Wrench, &c. The Saws are nicely boxed, without extra charge. We warrant them in all respects. They give dealers no trouble.

MILLERS FALLS CO.,

74 Chambers Street,

NEW YORK.

Q. S. BACKUS,



No. 102 Chambers Street, NEW YORK.

Climax" Reversible Ice Creeper.

PATENTED APRIL 20, 1878.

A simple and sure prevention against falling on toy pavements. Easily adjusted to the boot or shoe. For prices and terms to the Trade, apply to the man

CHILDS, GROFF & CO., Hardware Specialties, "A" represents the Creeper in position ready for use CLEVELAND, O.

ws the Creeper thrown back entirely out of he way when not in use, or walking in doors.

as al-

f the

o are

dis-

npete

cry

epart-nits of all the ve so

onths

how a kind ession nce to

ir car likely nortly, led is,

FOR S

BIDDLE HARDWARE CO., Philadelphia.
PECK & SNYDER, New York.
SMITH, COVERT & CO., Albany.
J. P. PHINNEY & CO., Boston. PRATT & CO., Buffalo.

EDWIN HUNT'S SONS, Chicago.

HAMILTON & MATHEWS, Rochester, N. Y.

THE TURNER & SEYMOUR MFG. CO.,

MANUFACTURERS OF Upholsterers', Stationers', House Furnishing and Fancy Hardware

AND NOTIONS.



Picture Nails, Knobs and Hooks, in great Variety. Gilt and Tinned Picture Wire, Twisted and Braided.

American Cast Shears.

Sold by Hardware and Notion Dealers everywhere.

Also Manufacturers of Shade Fixtures and Trimmings, Ink Stands, Twine Boxes, the Celebrated "Family" Egg Beater, Nutmeg Graters, Escutcheon Pins, Curtain Rings, &c., &c. FACTORIES, Wolcottville, Conn.

NATIONAL

FINISHED

[BRIGHT OR BLUED]



These nails are made of the best brands of NOR-WAY IRON, and are guaranteed to be equal to

NATIONAL HORSE NAIL CO., VERGENNES, VT.

HORACE DURRIE & CO., Agents,

No. 97 Chambers St., New York



THOMAS W. SPARKS,

SPARKS' American Chilled Shot.

Rivaling the English and all Others. STANDARD DROP & BUCK SHOT AND BAR LEAD.

121 Walnut Street, Philadelphia. Grant Fan Mill & Cradle Co.

Grant's Grain, Coffee, Rice, Cochineal and Pimento Fans,



AND
TURKEY WING GRAIN CRADLES,
4, 5 and 6 fingers.
GRAPE VINE GRAIN CRADLES,
4 fingers.
SOUTHERN PATTERN GRAIN

THE

Sprague Novelty Works,

15, 17 & 19 North Water Street,

ROCHESTER, N. Y.,

SPRACUE'S

and other Razor Strops. Refer to The Iron Age first issue of each month.

A. F. PIKE. East Haverhill, - New Hampshire, Scythe, Axe, Knife and Hacker







Send for Price List.

Established in 1839

Formerly L. & A. G. Coss.

Patent Screw Wrenches

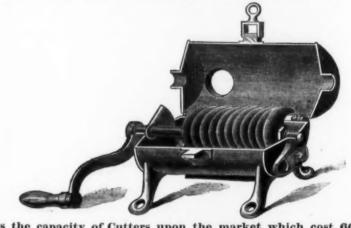
JUNE 26, 1866, MARCH 23, 1869, REISSUED 1870.

NOVEMBER 10, 1863, FEBRUARY 23, 1864, REISSUED JUNE 1, 1869, IMPROVED AUG. 1, 1877.

The back thrust when in use borne by the SHANK instead of the Hand'e-None genuine unless stamped "L. COES & CO."

Worcester, Mass.

Warehouse, 97 Chambers St., & 81 Reade St., N. Y. HORACE DURRIE & CO., Sole Agents.



Has the capacity of Cutters upon the market which cost 60 per cent. more money.

PRICE LIST.

38. r and 2 are packed $\frac{1}{2}$ dozen in a box; No. 3 packed $\frac{1}{2}$ dozen in box, second to the trade so $\frac{1}{2}$.

LLOYD, SUPPLEE & WALTON, Philadelphia. HORACE DURRIE & CO., New York City.



We call the attention of the trade to the whistle for speaking tubes, represented in above cut, as ag superior, in a mechanical point of view, on account of the

PATENT ELLIPTIC SPRING,

less liable to break and get out of order than the spiral spring usually used. These cade entirely of metal, are very strong and durable. They are offered in a variety of assonable prices. Send for illustrated circular and quotations, te an examination of our PATENT REVERSIBLE DOOR LOCKS, which reonstruction, combine simplicity, strength and durability. In these Locks of the Patent Lever and Spring renders the latch movement very easy and prompt in Illustrated catalogues and price lists furnished on application.

TRENTON LOCK AND HARDWARE CO.,

Manufacturers of Superior Building Hardware. Trenton, N. J.

JAMES M. VANCE & Co., 211 Market St., Philadelphia, Pa.; JAMES MARSHALL, 48 Warren St., New York.



Champion Clothes Line Hook.

This Hook has many points of ad-rantage over anything offered, being saily put up, holding the line firm; and a line can be put up and taken lown without tying or untying, and is neap. Manufactured only by

ENTERPRISE MFG. CO.,

Geneva, Ohio,

SCOTCH PIG IBON

has ruled strong during the week, for reasons already stated, and is not unlikely to go somewhat higher still, although shipments have receded to a very marked extent, as compared with those a few weeks ago. There are now, according to John E. Swan & Bros., 389,617 tons in Connal's stores at Glasgow, against 199,283 this date last year, while the number of operative furnaces in Glasgow, against 199,283 this date last year, while the number of operative furnaces in Scotland is 99, against 92 a year ago. The total shipments this year to date have increased 153,287 tons, about three-fourths foreign and the balance coastwise. Ballast pig iron is still held at 45/\$\frac{12}{2}\$ ton, delivered alongside ship in the Forth or Clyde. Importations from Middlesboro' into Grangemouth are again increasing, although the aggregate to date shows a falling off of 30,014 tons for for this reconstance. to date shows a falling off of 30,014 tons for for this year. Included in last week's exports were pigs

worth £4305 for New York, and £1068 for Baltimore. The shipments of manufactured iron and machinery were worth £30,000, including £3240 old rails for New York and £1012 Baltimore.

CLEVELAND PIG IRON is now quoted as under for G. M. B.;

No. 1 Foundry 48/ No. 4 Forge.

3 4 45/ Mottled...

3 4 43/ White...

4 43/6 Kentledge... All net cash, delivered f. o. b. at makers' wharves in the Tees wharves.

Ship plates are in great request in the North of England, nearly 70,000 tons of plates and angles being estimated to be needed for the vessels already ordered on the Clyde and the northern rivers.

FROM SHEFFIELD

such news as is to hand is fairly hopeful and cheerful. Many of the lighter trades are now enjoying comparative prosperity, and some are even doing more business than is usual at this period of the year. This, I understand, is the case with the electroplaters and the skate manufacturers. The latter did a "roaring" turnover last year, and they are disposed to think that they have now got another splendid "boom" on hand. The crucible steel houses are doing more work, a considerable proportion of their additional output being destined for your market, whence a number of capital your market, whence a number of capital orders have recently been received at Steelopolis. The heavy iron works are fairly busy all round, alike on railway materials, ship plates, beams and angles, and general merchant qualities. The armor plate mills are moderately busy, John Brown & Co. having a good order from the Argentine Republic. The rail mills are full of orders and the Research works well employed in and the Bessenier works well employed in all directions. By the

DEATH OF MR. ROEBUCK,

which occurred here, suddenly, early yester-day morning, Sheffield will at once have a keenly contested election forced upon it. Mr. Roebuck had for a long series of years occupied a singularly prominent and in-dependent position as the senior parliamen-tary representative of Sheffield. He was never allied to any party, and prided himself upon being a terror alike to friend and foe, a upon being a terror alike to friend and foe, a man whose vote could not be absolutely de-pended upon by either of the whips. As "Tear'em" Mr. Roebuck was known for many years, and was held in high esteem. His grandfather, I may say, was the Dr. Roebuck who founded the Carron Iron Works, Scotland, where he accumulated a large fortune, which he afterwards lost in shale-cil mining in the same country. The Liberal candidate for Sheffield will be Mr. Waddy, Q. C., now M. P. for Barnstaple. The Conservatives will probably bring forward either Mr. Mark Firth (of Thomas Firth & Sons), Mr. H. E. Watson, a local solicitor, or Mr. Stuart Wortley, a nephew of the Earl of Wharncliffe, whose large estates are very near the town. If Mr. Firth can be per-suaded to stand, I should be inclined to think his election almost, or quite certain.

THE MIDDLEMAN

in trade in this country will sooner or later be a doomed figure, and will have to retire into obscurity. The tendency of all modern business is to establish direct relations between the manufacturer or producer and the actual consumer. In some branches of commerce this is being slowly but surely effected by means of agencies, especially in London, where matters are on such an enormous scale that there is ample scope, and room to spare. where matters are on such an enormous scale that there is ample scope, and room to spare, for the most energetic of men to devote all their energies to the sale of any given article. In the smaller towns and the provinces the In the smaller towns and the provinces the middleman may, and probably will, long survive as a man who stocks and vends the wares of many producers, none of whom would find it pay them to retain the services of a special agent for the limited business which he might at the very best be enabled to command. In London the Scotch stove-grate houses and general founders, when the ward of Theorees test their selected. who have made Thames street their selected center, have for some time been supplying the builders and others on terms which in the builders and others on terms which in all probability differ very little from those which are accorded to the ironmongers. Other houses in the metropolis make it a rule to regulate their terms by quantities alone, without any especial regard whether or not their customer is in "the trade." Thus if a buyer requires one article the price is so much; if two or more a corres-conding reduction is given on each; so that ponding reduction is given on each; so that the large buyer is alone the wholesale buyer and he only gets best terms. For this latter mode of conducting business there is probably much to be said. One of the latest, and, from a public point of view, best, developments of this policy is found in a meeting of Northern coal owners in London (at Morley's Metal and Sanda Carlos Long saved to Americans) on Hotel, a place long sacred to Americans) on Saturday to consider the position of the trade with respect to consumers in the great metropolis. It was stated that the present average cost of coal in the Pool (a part of the Thames just below London Bridge) did not exceed 16/ per ton, whereas the retail prices ranged from 22/to 27/ per ton. The coal merchants of London have a ring which fixes selling prices, and these now leave pronxes selling prices, and these now leave pro-fits of 6/ to 10/ per ton. The coal owners did not object to a profit of 5/ per ton, but they alleged that such a state of things robbed the consumers and left them (the

field, have secured an order for about seven colliery proprietors) no profit whatever. It miles of these rails for the town of Oldham. was stated that one firm of London coal merchants alone made a yearly profit of not less than £50,000. Further measures will be taken to disturbe this enormous and anomalous state of affairs. The supply of 4,500,000 persons is certainly a prize worthy of being ardently contended for

STAFFORDSHIRE AND BIRMINGHAM

declared medium and common bars, sheets, plates and hoops up another 10/per ton. At Warrington (which is in Lancashire, bythe-by) iron wire is up 20/ and steel wire 30/. Cut nails, tacks, and many other minor hardwares are advanced by 5 to 10 per cent. less discount, with every prospect of the new rates being steadily maintained.

PAT. "SCREW WINDOW BALANCES. Liberal Discount to the Trade.

People are now showing less fear as to the stability of the revival, and most of the

hesitation is shown by purchasers.

merits of these goods, and their simple requirements in use will insure to them the favor of the user and applier.

A Mechanism always wanted, and as easily applied to windows as the common mash pulley, rendering the use of boxed frames, cords, pulleys, and the perplexing task of hanging sash unnecessary.

Sashes are locked with a meeting rail lock, as with weights. Sample set, 4 Balances, sent postage free upon receipt of \$1.

For sale by the Hardware trade. Send orders, &c., to

ROB'T B. HUGUNIN,

Manufacturer of Screw Balance Wethersfield, Ct. For sale by BUTLER & HUNTING,
53 Dey street, New York

Patent Concave Ox Shoes The only forged Ox Shoe made with

cavity to fit hoof, and the best and GREENFIELD TOOL CO.,

Greenfield, Mass.

NATIONAL STEAM PUMP Adapted to every possible Duty.

Send for Illustrated Catalogue, WM. E. KELLY.

New Brunswick, N. J. Salesroom, 40 Cortlandt St.



The Nutrizio COFFEE POT

per 3, 1878. int 30 per cent. Net H. NUTRIZIO,

VERMONT SNATH CO.,

Pat. Swing Socket Snaths

Springfield, Vermont.

Special Notices. DISCOUNT

OLT Revised to date.

Enlarged and Improved. Common Bolts, Common Bolts (old list). Philadelphia Bolts, Machine Bolts, Coach or Lag Screws.

A handsome cloth bound book of 10 pages, arranged with an index to the different kinds of bolts, and with lines and distinctive type, so the eye can follow sizes and discounts quickly and accurately. This book has no advertisements in it, but is arranged entirely in the interest of the trade. The form of the book and arrangement of the tables is such that there is a great deal of matter within a very reasonable space. My old discount both lists have proved very useful, and this is a vast improvement on either of the former editions.

PRICE, \$1.50 EACH. Please send money with orders.
BUELL LAMBERSON,
97 Chambers St., N. Y.

LEIGHS

Discount Book.

Specially arranged for the Hardware and ther trades using Combination Discounts. Mailed postpaid on receipt of price.

Bound in Leather, Silicate Leaves ... Address

EDWARD B. LEIGH, St. Louis Elevator, St. Louis, Mo.

Or either of the Publishers, viz IVISON, BLAKEMAN, TAYLOR & CO., New York R. & T. A. ENNIS, St. Louis.

Situation Wanted.

By a married man as cashier, bookkeeper, as sistant bookkeeper, or any suitable position; can

THE BEST ARE THE CHEAPEST!



The Trump Lathe Chucks.

Three Jaws. Self-Centering. Equal to the best. For drills ¼ and under. Price, \$1.50 to \$2.25.



Trump Bros. Machine Co., Wilmir gton, Del., U. S. A.

NORWEGIAN PLOW CO. DUBUQUE, IOWA.

W. C. CHAMBERLIN, GEO, STEPHENS, Sec'y and Treas. C. W. MITCHELL, H. H. SATER, Superintendent

Manufacturers of the Celebrated CAST STEEL DIAMOND-HARDENED

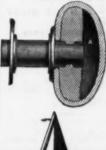


OUR SPECIALTY,—Plows for difficult soils and of great durability. Also, Scrapers for railroad work. For durability and scouring qualities the best Plows produced in the country. Warranted o scour in any soil. Made with extra thick points and shins. Symmetrical and correct in model. Lasy running and thoroughly pulverising the soil.

Agents Wanted Everywhere.

THE STAR SALT CASTER CO., Office, No. 161 FRANKLIN ST., BOSTON, Manufacturers of

Specialties in House Furnishing Hardware.
PATENT EXTENSION DOOR KNOES (Pat. Jan. 29, 1878) manufactured in



every variety of style. Silver-Glass, Silver Center, Fine Cut, &c. Fitted with heavy silver-plated mountings. Extend They can be adjust ed to doors of any thickness without the annoyance of the old-fashioned washers and pins.
Our "Patent Chamber" (Pat. Nov. 6.
1877) prevents all possibility of the bursting of the glass

A trial will make plain their merits. Send for illustrated price lists and circu-lars.

THE STAR SALT CASTER CO., Boston, Mass.





since the introduction of this popular and useful little article. Sales last season larger than ever before, and this season larger still, show ing that the article has real merit, and that the people want it and will buy it. Every hardware dealer or general storekeeper should have them in stock. Special terms to axe manufacturers, Having bought our stock before the recent advance in iron, we shall sell at former prices, \$4.80 per gross; one dozen by mail, 6c cents; one each size (3 sizes), 25 cents. Single sample, 10 cents. Postage prepaid.

COVERT'S

Patent Improvement in



No more Splicing or Winding Ends with Cord.



No. 1.

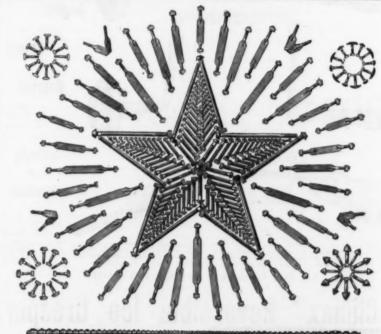
Rope Halters, Horse Ties, Cattle Ties, Halter Leads, &c., made by clamping the lap with steel rings, as shown in cut. Also, clamping the end with a ring to prevent unbraiding.

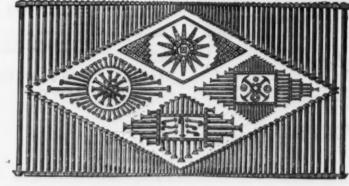
This is all accomplished by machinery, and a superior article can be made at so much less cost, it will not pay any one to make up goods the old way. We are now prepared to furnish the trade the cheapest and best Rope Halters ever made. No. I illustrates the twisted and irregular form of the spliced Halter; also the insecure method of whipping the end with cord, which invariably comes off, and allows the rope to untwist. No. I illustrates the New Halter. It is made by clamping the laps with steel rings. The end is also secured with a steel ring, which will remain as long as the rope lasts.

COVERT'S HORSE AND MULE JEWELRY.



Consisting of Covert's Celebrated Harness Snap and Thimble for Horse and Cattle Ties, Rope G Leads, Leather Horse Ties, Breast Chains, Halter Post Rods, &c. These goods are far superior to real merit become standard, and never fall to giv bers in general and saddlery hardware at manufa price list. Address COVERT MFG. CO.





Norway and Charcoal Iron Carriage Bolts, Tire and Faucy Head Bolts, "Star" Axle Clips. Quality guaranteed. Finish unexcelled.

TOWNSEND, WILSON & HUBBARD.

2301 Cherry Street,

Philadelphia, Pa.

Tries of the control of the control



THE E. HORTON & SON CO., Windsor Locks, Conn.

From this date a discount of 30 per cent will be made from the price HORTON LATHE CHUCK.

They also manufacture the Sweetland Improved Chuck. April 1, 1879. Send for Price List. [See advertisement in The Iron Age of December 4, 1879.]

WHEELER & MELICK CO., ALBANY, NEW YORK, U. S. A., Manufacturers of

IMPROVED FARM IMPLEMENTS AND MACHINERY.



Beardsley Scythe Co., GRASS, GRAIN & BUSH SCYTHES, Hay Knives & Corn Knives. West Winsted, Conn.

The Iron Age Directory

| The Iron Age Directory | Enterprise M. Co., of Pa. Phila. and N. Y. Files, Millows. Files, Millows. Files, Millows. Files, Millows. Moss F. W. & John, N. Y. Moss F. W. & John, N. Y. Moss F. W. & John, N. Y. Files, Manufacturers af. Auburn File Works, & Chambers, N. Y. Barnett G. & H., 41 and 43 Richmond, Phila. Disston Henry & Sons. Phila. Draper C. T., Sing Sing, N. Y. Everhart James M., Scranton, Pa. V. Everhart James M., V. Eve |
|---|--|
| and Index to Advertisements. | Moss F. W., & John, N. Y Files, Manufacturers of. Auburn File Works, & Chambers, N. Y |
| Agricultural Implements. Johnson, Gere & Truman, Owego, N. Y. Wheeler & Metick Co., Albany, N. Y. 22 | Disston Henry & Sons, Phila. Draper C. T., Sing Sing, N. Y. |
| Wheeler & Metick Co., Albany, N. Y | Johnson & Bro., 1 Commercial, Newark, N. J McCaffrey & Bro., 1742, and 1734 N. 4th, Phila. |
| Brooklyn, N. Y | Paul Chas, B., Williamsburgh, N. Y Spencer J. R. & Son, Sheffield, England |
| Wheeler & Mellek Co., Albany, N. Y. 22 Air Compressors. Works, 14 and 16 Water st., Brooklyn, N. Y. 36 Alarm Money Drawers. 36 Alarm Money Drawers. 36 Authority Tention Metals. 36 Authority Tention Metals. 36 Authority Tention Metals. 36 Authority Tention, N. J. 32 Architectural Iren Work. Augers, Bits, etc., Manufacturers of. Jennings C. E. & Co., 36 Chambers, N. Y. 36 Sedgwick Mig. Co., Poughkeepsie, N. Y. 36 Sedgwick Mig. Co., Poughkeepsie, N. Y. 36 Sedgwick Mig. Co., Poughkeepsie, N. Y. 36 Sedgwick Mig. Co., St Beckman, N. Y. 8 Axe Wedge. | Paul Chas. B., Williamsburgh, N. Y. Spencer J. R. & Son, Sheffield, Engiand. Fire Arms. Conway T. G., so Chambers, N. Y. Fire Brick. Makers of. Borgner & O'Brien, Philadelphia, Pa. Brooklyn Clay Retort and Fire Brick Work Dyke St., Brooklyn, N. Y. Garoner Brothers, Pittsburgh, Pa. Hall & Sons, Suffalo, N. Y. Krelscher B. & Sons, 95 Goerck, N. Y. Maurer Henry, 418 East 29d, N. Y. Newton & Co., Albany, N. I. N. Y. Newton & Co., Albany, N. I. N. Y. Perthambor Terra Cotta Co., Perth Amboy Valentine M. D. & Bro., Woodbridge, N. J. Watson John R., Perth Amboy, N. J. Film and Emery Paper and Cleth. Bacder, Adamson & Co., 720 Market, Phila. Fluting Machines. Shepard Hardware Co., Buffalo, N. Y. Empire Portable Forge Co., Cohoes, N. Y. Empire Portable Forge Co., Cohoes, N. Y. Empire Portable Forge Co., 28 Carter, Phi Fossiliterous Ores. Brown T. J., Rockwood, Tenn. |
| Fisher & Norris, Trenton, N. J | Brooklyn Clay Retort and Fire Brick Work Dyke St., Brooklyn, N. Y. |
| Augers, Bits. etc., Manufacturers of. Jennings C. E. & Co., 68 Chambers, N. Y | Hall & Sons, Buffalo, N. Y. Kreischer B. & Sons, 58 Goerck, N. Y. Maurer Henry 48 Fast 324 N. V. |
| Snell Mfg. Co., 8: Beekman, N. Y | Newton & Co., Albany, N. Y |
| Sneil Mig. Co., 5i Beckman, N. Y. Axe Wedge. Porter & Wooster, Boston. Axies. Springs. &cc., Manufacturers of. Cook R. & Sons, Winsted, Conn. Hotchkiss Guy U., Field & Co., 622 E. Lith, N. Y., 31 Lambertville Iron Works, Lambertville, N. J., 7 Shelaon & Co., Auburn, N. Y. Babbit Metal. | Valentine M. D. & Bro., Woodbridge, N. J Watson John R., Perth Amboy, N. J. Flint and Kmery Paper and Cleth. |
| Lambertville Iron Works, Lambertville, N. J 7 Sheldon & Co., Auburn, N. Y Babbit Metal. Philadelphia Smelting Co., 12th and Noble, Phila29 | Baeder, Adamson & Co., 730 Market, Phila Fluting Machines. Sheparg Hardware Co., Buffalo, N. Y. |
| Philadelphia Smelting Co., 13th and Noble, Phila29 Bng Holder. Sprengle L Jeff., Ashland, Ohlo | Forges. Portable, &c. Buffalo Forge Co., Buffalo, N. Y Empire Portable Forge Co., Cohoes, N. Y |
| Scut H. B. & Co., Buffalo, N. Y | Keystone Portable Forge Co., 2:8 Carter, rhi Fossiliterous Ores. Brown T. J., Rockwood, Tenn |
| Bed Screws. Shelton & Co., Birmingham, Ct Sellows, Manufacturers of. Scott Geo. M., Chicago, Ill31 | Paxson J. W. & Co., 514 Beech, Phila |
| Scott Geo. M., Chicago, III. Bells (Sleigh.) Bevin Bros. Mfg. Co., Easthampton, Conn | Whitehead Bros., 517 W. 15th, N. Y. Fry Pans. N. Y. Stamping Co., 311 Avenue A, N. Y. Furnaces, Makers of. Richmond & Potts. 119 S. 4th, Phila., Pa. Furniture Springs. Cary & Moen. 234 W. 29th, N. Y. Haigh J. Llovd, & I John, N. Y. Galvanized Iron. Lefterts Marshall, 20 Beckman, N. Y. Garden Tools. |
| Forepauch Wm. F., Jr., & Bros., Philadelphia | Furniture Springs. Cary & Moen, 234 W. 29th, N. Y. |
| Pope Mfg. Co., 65 Summer, Boston | Gaivanized Iron. Lefferts Marshall, 90 Beekman, N. Y |
| Lindeman O. & Co., 254 Pearl, N. Y | Enterprise Mfg. Co., Geneva, Ohio |
| Backus Q. S., 102 Chambers N. Y | Comiy J., Lincoln Park, N. J |
| N. Y. Beiting and Packing Co., 37 Park Row, N. Y. 0 Bicycles. Pope Mfg. Co., 65 Summer, Boston | Judson Junius & Son, Rochester, N. Y Smylle M. C. & W. D., Philadelphia Grates. |
| Penfield Block Works, Lockport, N. Y | Grindstones. Grindstones. |
| Eames' Petroleum Iron Works, Titusville, Pa25 Blowers and Exhaust Fans. | Grindstones. Wood H. S. & Co., 33 West, N. Y. Wood M. S. & Co., 33 West, N. Y. Wood Walter R., 203 and 285 Front, N. Y. Wood Walter R., 203 and 285 Front, N. Y. Gunowston & Gan, North Amherst, Ohlo. Gunowston & Gallery, Wall, N. Y. Ladin & Rand Powder Co., 29 Murray, N. Y. Handles, Makers of |
| Surrevant F., Santrevant St., | Kneeland F. L. (Dupont) 70 Wall, N. Y Lafin & Rand Powder Co. 20 Murray, N. Y |
| Wiley & Russell, Greenfield, Mass | Hartigan Wm. R., Burlington, Conn |
| Beits (Screw.) Coleman Eagle Bolt Works, Philadelphia Brass, Manufacturers of. | Fernald & Sise, 100 Chambers, N. Y |
| Forsaith, S. C. & Co., Manchester, N. H. 16 Bolta (Screw.) Coleman Eagle Bolt Works, Philadelphia. Brass, Manufacturers of. Ansonia Brass and Copper Co., 19 Cliff, N. Y. 2 Bridgeport Brass Co., Bridgeport. Conn. 2 Brass Goods Mg. Co., 43 Chambers, N. Y. 91 Davol John & Sons, 100 John, N. Y. 91 Davol John & Sons, 100 John, N. Y. 93 Holmes, Booth & Haydens, 49 Chambers, N. Y. 2 Merchant & Co., 69, Market st. Phila. 27 Plume & Atwood Mg. Co., 60 Chambers, N. Y. 2 Rome Iron Works, Rome, N. Y. 8 Sovill Mg. Co., 42 Broome, N. Y. 4 Sovill Mg. Co., 42 Broome, N. Y. 2 Waterbury Brass Co., 36 Broadway, N. Y. 2 Brass Founders. | Lafin & Rand Powder Co. 29 Murray, N. Y. Handles, Makera Q. Hartigan Wm. R., Burlington, Conn. Hundley & Hanks, 70 Reade, N. Y. Hardware Commission Merchants, Fernald & Sise, 100 Chambers, N. Y. Graham & Haines, 113 Chambers, N. Y. Heaton & Denckla, 97 Commerce, Phia. Hundley & Hanks, 70 Reade, N. Y. Samuel S. L., 57 Cedar, N. Y. Tennis & Wilson, 89 Beckman, N. Y. Walbridge G. B., 100 Chambers, N. Y. Whitley John R. & Co., London and Paris |
| Holmes, Booth & Haydens, 49 Chambers, N. Y 3 Manhattan Brass Co 83 Reade, N. Y | Waibridge G. B., 104 Chambers, N. Y Whitley John R. & Co., London and Paris |
| Plume & Atwood Mfg. Co., 80 Chambers, N. Y | Lioyd, Supplee & Waiton, 625 Market, Phila. Shepard Sidney & Co., Buffalo, N. Y |
| Scotli Mig. Co., 4th Broadway, N. Y. 3 Brass Founder Philadelphia. 36 Brass Founder Philadelphia. 36 Bridge Builders. 36 Bridge Builders. 39 Bridge Builders. 30 Bridge Builders. 30 Buther and Shee Knives, Manufacturers of, Wilson John, Sheffield. England. 39 Butts and Hinges. American Soiral Spring Butt Co., 52 Beekman, N. Y. 36 New England Butt Co., 52 Platt, N. Y. 37 Sabin Mig. Co., 80 Chambers. N. Y. 7 Sabin Mig. Co., 80 Chambers. N. Y. 7 Carriage Balts, Maxers of. 30 Carriage Hardware, Makers of. Plindelphia. 32 Carriage Hardware, Makers of. Plin Richard P., Wilmington, Dei. 58 Smith H. D. & Co., Plantsville, Conn. 12 Wilcox & Howe, Birmingham, Conn. 12 Carriage Springs. | Lioyd, Supplee & Watton, Os Market, Phila. Shepard Sidney & Co., Burfalo, N. Y. Hardware Importers. Boker Hermann & Co., 100 Duane, N. Y. McCoy & Co., 134 and 135 Duane, N. Y. McCoy & Co., 134 and 135 Duane, N. Y. Mardware Manufacturers. Comity Jas., 4732 Faul st., Philadelphia. Cowles Hardware Co., Unionville, Conn., Day, Farrington & Co., 100 Duanelle, Conn., Day, Farrington & Co., 101 Duanelle, N. Y. Enterories Mig. Co., 101 Duanelle, Conn., Greenfield Tool Co., Greenfield, Mass. Lloyd, Supplee & Walton, 102 Market St., Phil Miller's Falls Co., 14 Chambers, N. Y. Paysoa Mig. Co., 131 W. Jackson, Chicago, Phila. Novelty Mig. Co., 201 Cherry Phila. Shannon J. B. & Sons, 100 Market, Phila. Shepard Hardware Co., Boaton. Star Salt Caster Co., Boaton. Tiebout W. & J., 200 Pearl, N. Y. Trenton Lock & Hardware Co., Trenton, N. Union Mig. Co., 20 Chambers, N. Y. Trenton, M. Go., 20 Chambers, N. Y. Trandray Specialisms, 35 Beekman, N. Y. Hardware Specialisms, 35 Beekman, N. Y. Hardware Specialisms. |
| Brick Machines. Miller S. P. & Son, 309 S. Fifth Phila | Comity Jas., 4739 Paul st., Philadelphia Coulter, Flagier & Co., 87 Chambers, N. Y |
| Moseley Iron Bridge and Roof Co., 5 Dey. N. Y 5 Butcher and Shoe Knives, Manufacturers of. | Day, Farrington & Co., 295 Third ave., N. Y., Enterprise Mfg. Co., Phila. |
| Butts and Hinges, American Spiral Spring Butt Co., 82 Beekman, N. Y. 36 New England Butt Co., 30 Platt. N. Y | Lloyd, Supplee & Waiton, 625 Market St., Phil Miller's rails Co., 74 Chambers, N. Y. |
| Sabin Mfg. Co., Montpeller, Vt. 27 Stanley Works, New Britain, Conn. 8 Co. of Chambers, N. V | Phila. Novelty Mfg. Co 821 Cherry Phila Shannon J. B. & Sons, 1000 Market, Phila Shannon Hardware Co. Buffalo N. V. |
| Carriage Bolts, Makers q. Shelton & Co., Birmingham, Ct. | Stanley Works, New Britain, Conn |
| Carriage Hardware, Makers of. Pim Richard P., Wilmington, Del. 6 Smith H. D. & Co., Plantsville, Conn. 12 | Trenton Lock & Hardware Co., Trenton, N., Union Mfg. Co., of Chambers, N. Y., Van Wagoner & Williams, & Beekman, N. V. |
| Wilcox & Howe, Birmingham, Conn. 8 Carriage Springs. Dexter Spring Co., Hulton, Pa | Hardware Specialties. American Machine Co., 1925 N. 4th, Phila |
| Roberts A. & P. & Co., 265 S. 4th, Philadelphia 5 | Shepard Sidney & Co., Buffalo, N. Y Spencer & Underhill. 94 Chambers, N. Y |
| Cartridges. Schuyler, Hartley & Graham, New York | Weeks A. A., 82 John, N. Y Harness Buaps. |
| Casters. Clark Geo. P., Windsor Locks, Conn. 10 Glass Ball Caster Co., 96 John, N. Y 10 Phoenix Caster Co., indianapolis, Ind. 10 Castings Iron. 10 | Van Vagouer & Wilmins, & Deekman, N. Y. Hardware Specialties. American Machine Co., 1925 N. 4th, Phila., American Tool Co., 116 Chambers, N. Y. Shepard Sidney & Co., Buffalo, N. Y. Spencer & Underhill, o4 Chambers, N. Y. Spence & Underhill, o4 Chambers, N. Y. Spencer & Underhill, o4 Chambers, N. Y. Weeks A. A. & John, N. Y. Harness Suages. West Troy, N. Y. Hay K nives. Hold Hiram & Co., East Wilton, Me. Hinges. |
| Casting From: St. Louis Malleable Iron Co., St. Louis, Mo | Hinges. Staniey Works, New Britain Conn. Heg Ringers. Chambers, Bering & Quinlan, Decatur, Ill Hoisting Engines, Makers of. Crane Bros., Mg. Co., Chicago, Ill. Heisting Machines. Box Alfred & Co., 312 Green, Phila. Clem & Morse, 413 Cherry, Philadelphia. Harrington Edwin & Son, Philadelphia, Pa. 3ellers Wm. & Co., Phila. and 79 Liberty st., Hollow Ware. Wells W. T., 78 Beekman, N. Y. Heoks (Cotton & Raie.) New York Handle & Mallet Works, 456 E. Hot Horse Clippers. |
| Chiseis, Manufacturers of. Buck Bros., Milibury, Mass | Hoisting Engines, Makers of. Crane Bros., Mfg. Co., Chicago, Ill |
| Chucks. Cushman, A. F., Hartford, Conn | Hox Alfred & Co., 312 Green, Phila Clem & Morse, 413 Cherry, Philadelphia Harrington Edwin & Son, Philadelphia, Pa. |
| Cary & Moen, 34 W. State. Dunbar Bros., Bristol, Conn. 30 Cenl, Miners of. W. New York 8 | Sellers Wm. & Co., Phila. and 79 Liberty st., Hollow Ware. Wells W. T., 78 Beekman, N. Y |
| Dunbar Bros., Bristol. Coni -90 Ceal., Miners of. Ely E. B. & S. W., New York 8 Pardee A. & Co., 111 Broadway, N. Y. 6 The Hoboken Coal Co., Jorney City, N. J. 6 Coal Heds. | New York Handle & Mallet Works, 456 E. Hot Horse Clippers. Boker, Hermann & Co., 101 & 103 Duane, N. Y |
| Esterbrook Wm., 311 Cherry, Phila | Horse Nails, Makers of. Ausable Horse Nail Co., 4 Warren, N. Y |
| Coffee and Spice Mills. Lane Brothers, Millbrook, N. Y | Horse Nalls, Makers of. Ausable Horse Nail Co., 4 Warren, N. Y Bridgewater Iron Co., Bridgewater, Mass., EP Nail Co., Cleveland, National Horse Nail Co., Vergennes, Vt |
| Ceke. Wister Francis, 230 S. Third, Phila | Saranac Horse Nail Co., Plattsburg, N. Y Horse Shoes, Makers of. |
| Copper. Merchant & Co., cop Market st., Phila | National Horse Nail Co., Vergennes, Vt., Saranac Horse Nail Co., Plattaburg, N. Y., Burten Nail Co., Plattaburg, N. Y., Burden Iron Works, Troy, N. Y. Bhode Island Horse Shoe Co., Providence, R. Schoenberger & Co., Pittsburgh, Pa. House furnishing Teods, Pierce Geo. N., Buffalo, N. Y. Hydrauits, &c. McLean John, 20 Monroe, N. Y. Mchawk & Hudson Mfg. Co., Waterford, N. Hydrauite Jacks. Dudgeon Richard, 24 Columbia, N. Y. Lyon E. & Co., 470 Grand, N. Y. Lyon E. & Co., 470 Grand, N. Y. Lee Cream Kreezers. White Mountain Freezer Co., Laconia, N. H. Lee Creepers. |
| Copper Merchant & Co., soy Market st., Phila | Pierce Geo. N., Buffalo, N. Y |
| Corrugated 1ren. Moselev fron Bridge and Roof Co., 5 Dey, N. Y. 5 Countersink. Barber D. F., 131 Washington, Boston. Oradies, Grails. Grant Fan Mill and Cradle Co., Melrose, N. Y. 21 Oracibles, Manufacturers of. Wile. Siedel & Co., 700 Markes, Phila. 31 Outlery, Imporiers of. Boker Hermann & C., 200 Markes, Phila. 31 Outlery, Imporiers of. Boker Hermann & S. Chambers, N. Y. 40 Friedmann & Lauterjung, 91 Chambers, N. Y. 10 Gutlery, Manufacturers of. Burkinshaw Aaron, Popperell, Mass. 10 Goodell Company, Antrim, N. H. Henry Saymour Cutlery Co., 92 Chambers, N. Y. 10 John Russell Cutlery Co., 20 Chambers, N. Y. 10 Rogers Wm., Wallingford, Conn. 10 Rogers Wm., Wallingford, Conn. 10 Wallace Bros., Wallingford, Ci. 11 Bush Bures. | Mchawk & Hudson Mfg. Co., Waterford, N. Hydraulic Jacks. Dudgeon Richard, 24 Columbia, N. Y. |
| Gradies. Grain. Grant Fan Mill and Cradle Co., Melrose, N. Y21 Crackles. Manufacturers of | Lyon E. & Co., 470 Grand, N. Y |
| Wile, Siedel & Co., 700 Market, Phila | Ice Creepers. Childs, Groff & Co., Cleveland, Ohio Insurance, Boiler. Hartford Steam Boiler Inspection & Insurance |
| Clatworthy F. & W., 82 Chambers, N. Y 10 Friedmann & Lauterjung, or Chambers, N. Y | Hartford Steam Boiler Inspection & Insurance Iron Brokers. Boynton Geo. A., 70 Wall, N. Y. |
| Burkinshaw Aaron, Popperell, Mass. 10 Goodell Company, Antrim, N. H | Iron Brokers. Boynton Geo. A., 70 Wall, N. Y. Etting Edward J., Philadelphia, Pa. Hatry A. G., Pittaburgh. Pa. Iron, Charcont. Warm or Cold Buss. Quincy John W., 69 William N. Y. Iron Commission Merchauts. Balley J. F. & Co., 50 Wall. N. Y. Lowe S. B., Chattanosa, Tonn. Mohd J. J., 42 Walnut. Philadelphia. Walter L. & R., 32 Walnut. Philadelphia. Walter L. & R., 32 Walnut. Philadelphia. Iron. Phys. Importer of. Lee James & Co., 72 Pine, N. R. Swan John E. & Bro., Glasgow, Scotland. Williamson James & Co., 69 Wall, N. Y. Iron Desigra. |
| John Russell Cutlery Co., 90 Chambers, N. Y | Quincy John W., 98 William N. Y |
| Rogers Wm. & Son., Hartford, Ct | Mohr J. J., 430 Walnut, Philadelphia |
| Wallace Bros., wallingford, Co. Dash Lamps. White Mfg. Co., Bridgeport, Conn24 | Iron, Pig, Importers of. Lee James & Co., 72 Pino, N. R. |
| Yale Lock Mg. Co., 52 Chambers, N. Y 3 Dimer Pail and Lanterns. Welch Yo. Portenester, N. V | Williamson James & Co., 69 Wall, N. Y Iron Dealers. |
| Natice Bros., Wallingford, Ct | Iron Dealers, Abeel Brothers, 190 South, N. Y. Bonnell, Botsford & Co., Youngstown, O. Borden & Lovell, 70 and 72 West, N. Y. Carmichael W. J., 130 and 132 Cedar, N. Y. Conney Daniel F., 88 Washington, N. Y. Egleston Bros. & Co., 168 South, N. Y. Harrison & Gilloon, 156 |
| Dunne P. R., 182 Fulton, N. Y | Coney Daniel F. 85 Washington, N. Y. Egleston Bros. & Co., 166 South, N. Y |
| Ives Hobart B., New Haven, Ct. Drilling Machines, Makers of. Boynton & Plummer, Worcester, Mass35 | Hoffman J. W. & Co, 208 S. Fourth, Philadel Judson B. F., 457 and 459 Water, N. Y. Kane C. Pittsburgh, Pa. |
| Sellers, Wm. & Co., Phila. and 79 Liderty 88., N. Y. 35 Taft Geo. C., Worcester, Mass | Lundberg Gustaf, 38 Kilby, Boston, Mass Middleton W. Ss., 52 John, N. Y. Ogden & Wallace, 85, 87, 80 and or Elm. N. Y. |
| Wiley & Basseli Mrg. Co., Greenheid, Mass | Pierson & Co., 24 Broadway, N. Y Pullman J. Wesley, Philadelphia, P Quincy John W., 08 William, N. Y |
| Drop Hammers. The Stiles & Parker Press Co., Middletown, Ct35 | Richards D. W. & Co., 92 Mangin, N. Y |
| The Stiles & Tarker Flow Co., Matter W., Co., S., Drop Presses, Beecher & Peck, New Havon, Conn | Lundberg Gustaf, 26 Kilby, Boston, Mass. Middleton W. S., 52 Jobn, N. Y. Ogden & Wallace, S., 87, 89 and 91 Elm, N. Y. Pelerson & Co., 24 Broadway, N. Y. Pullman J. Wesley, Philadelphia, P. Quincy John W., 69 William, N. Y. Richards D. W. & Co., 32 Mangin, N. Y. Wallace Wm. H. & Co., Albany and Washi Warner A. B. & Son, 26 and 20 West, N. Y. Williamson James & Co., 69 Wall, N. Y. Williamson James & Co., 69 Wall, N. Y. Whitney A. R., 68 Hudson, N. Y. |
| Electric Machines. Weston Dynamo-Electric Machine Co., Newark, | Cox, Jr., Justice & Co., 333 Walnut, Phila |
| ### ### ### ### ### ### ### ### ### ## | I Levis Henry & Co., Philadelphia, Pa I ron, Manufacturers of. Albany & Rensselaer Iron & Steel Co., Troy |
| Stokes & Parrish, Philadelphia 34 Elevator Buckets. Sowland T. F. Brooklyn, N. V. | Bradley, Reis & Co., New Castle, Pa Britton Iron and Steel Co., Cleveland, Ohio. Burden Iron Works, Troy, N. Y. |
| Stokes & Parrisa, Philadespins. 34 Elevator Buckets. 34 Elevator Buckets. N. Y. 35 Ewery and Emery Wheels. 37 Irvine A. A. & Co., 22 Kurrsy, N. Y. 38 Lehligh Valley Emery Wheel Co., Weissport, Pa. 36 | Condit, Wick & Co., Cleveland, Ohio |
| Sherrill Roper Air Engine Co., or Washington, N.Y.34 | North Chicago Rolling Mill Co., Chicago, fil. Phoenix Irou Co., 410 Walnut, Philadelphia. |
| Engines, tass. Schleicher. Schumm & Co., Philadelphia | Rome Merchant Iron Mills, Rome, N. Y |
| Kurlnes, Steams, Makers of. Lane & Bodlev Co., Cincinnati, O. 34 Lovegrove & Co., Philhdelphia. 35 Shaplev & Wells, Bingharaton, N. Y. 34 Wetherill Robt. & Co., Chester, Ps. 35 | Rowland Wm. & Harvey. Philadelphia Shoenberger & Co., Pittsburgh. Pa |
| Chapley & Wells, Binghardton, N. Y | The Passaic Rolling Mill Co., Paterson, N. J. Ulster Iron Works, on Broadway. U. S. Iron and Tin Plate Co., Pitianurgh, Pa |
| Equalizer - Bunger M. & Co., Indianarolis, Ind | Hoffman J. W. & Co., 288, 4th, Philla- Levis Henry & Co., Philadelphia, Pa. Iron, Manufacturers of. Albany & Rensselaer Iron & Steel Co., Troy bendley, Reis & Co. Steel Co., Troy bendley, Reis & Co. Steel Co., Clevis of Co., Cland. Ohio. Burden Iron Works, Troy, N. Y. Condit, Wick & Co., Cleveland, Ohio. Houdlette & Ellis, Hoston, Hass. Kirkpatrick. Beale & Co., Pittsburgh Pa. Roran Andrew, Pittsburgh, Pa. North Chicago Rolling Mill Co., Chicago, III. Phoenix Iron Co., ato Wainut, Philadelphia. Portsmouth Iron and Steel Co., Portsmouth Rome Iron Hong, Iron Mills, Rome, N. Y. Kowland James & Co., 220 N. Delaware ave., Rowland James & Co., 220 N. Delaware ave., Rowland James & Co., 220 N. Delaware ave., Rowland James & Co., Pittsburgh, Pa. Taylor & Boggis, Cleveland, O. The Passate Rolling Mill Co., Paterson, N. J. Ulster Iron Works, oo Brosdway. U. S. Iron and Tin Plate Co., Pittsburgh, Pa. Wood Alan & Co., 15, tarch Philadelphia. Zug & Co., Pittsburgh, Pa. James, Plansladed Sheet, Manufacturers of |
| Penfield Block Works, Lockport, N. Y | Iron, Planished Sheet, Manufacturers of Wood W. D. & Co., Pittsburgh, Pa |
| | |

a.

15

alk .

S

ES,

28 st.

| | 7 | Г |
|---|--|---|
| ĺ | Faucets, Self-Measuring, Makers of. Enterprise Mig. Co., of Pa., Phila, and N. V. | 1 |
| | Faucets, Self-Measuring, Makers of. Enterprise Mfg. Co., of Pa., Phila. and N. Y | 1 |
| | Moss F. W., 80 John, N. Y | 1 |
| | Moss F. W. & John, N. Y. Files, Manufacturers of. Auburn File Works, & Chambers, N. Y. & Barnett G. & H. 41 and 43 Richmond, Phila. Boliston Henry & Sons. Phila. Disston Henry & Sons. Phila. Feverhart James M., Scranton, Pa. Everhart James M., Scranton, Pa. McCaffred Bro., Commercial, Newark, N. J. McCaffred Bro., Commercial, Newark, N. J. Sonicolson File Co., Providence, R. I. Paul Chas, B., Williamsburgh, N. Y. Spencer J. R. & Son, Sheffield, England. To Fire Arms. | - |
| | Evernart James M., Scranton, Pa. 30 Johnson & Bro., 1 Commercial, Newark, N. J. 8 McCaffrey & Bro., 1742, and 1734 N. 4th, Phila. 8 | |
| | Nicholson File Co., Providence, R. 1. 30 Paul Chas, B., Williamsburgh, N. Y. 8 Spencer J. R. & Son, Sheffield, England. 10 | 1 |
| | Spencer J. R. & Son, Sheffield, England | |
| | Brooklyn Clay Retort and Fire Brick Works, Van Dyke St., Brooklyn, N. Y | |
| | Hall & Sons, Buffalo, N. Y 30 Kreischer B. & Sons, 58 Goerck, N. Y 30 Maurer Henry, 418 East 23d, N. Y 20 | |
| | Newton & Co., Albany, N. Y | |
| | Ostrander James & Son. Troy, N. Y. 30 Perthamboy Terra Cotta Co., Perth Amboy, N. J., 30 Valentine M. D. & Bro., Woodbridge, N. J. 30 Watson John R., Perth Amboy, N. J. 30 Watson John R., Perth Amboy, N. J. 30 Flint and Kmery Paper and Cleth. Bacder, Adamson & Co., 730 Market, Phila. 10 Flutting Machines. Shepare Hardware Co., Buffalo, N. V. 322 | |
| | Baeder, Adamson & Co., 730 Market, Phila | |
| | Forges: Portable, &c. Buffalo Forge Co., Buffalo, N. Y | |
| | Keystone Portable Forge Co., 218 Carter, Phil34 Fossiliterous Ores. Brown T. J., Rockwood, Tenn | 1 |
| | Seasiliterous Ores. | |
| | N. Y. Stamping Co., 311 Avenue A, N. Y | |
| | Whitehead Bros., 5i7 W. 15th, N. Y. 4 Fry Pans. N. Y. Stamping Co., 311 Avenue A, N. Y. 27 Farnaces, Makers of. Richmond & Potts, 119 S. 4th, Phila., Pa. 5 Farnitine Springs. Cary & Moen, 234 W. 29th, N. Y. 3 Haigh J. Llovd, 81 John, N. Y. 2 Gnivanized Iron. Lefferts Marshall, 90 Beekman, N. Y. 4 Garden Teols. 4 | |
| | Galvanized Iron. Lefferts Marshall. 90 Beekman, N. Y | |
| | Dunlap C. W. & Co., 43 Chambers, N. Y | - |
| | Comiy J., Lincoln Park, N. J | 1 |
| | Judson Junius & Son, Rochester, N. Y | |
| | | |
| | Wood Walter R., 283 and 285 Front, N. Y | |
| | Filladelphia. Griudstanes. Wood H. S. & Co., 33 West, N. Y | |
| | Andlie & Markey Co. 29 Murray, N. Y. 44 Hardigan Wm. R. Burlington, Conn. 13 Hundley & Hanks, 70 Reade, N. Y. 13 Hardware Commission Merchants, Fernald & Sise, 100 Chambers, N. Y. 14 Graham & Haines, 113 Chambers, N. Y. 15 Heaton & Denckis, 507 Commerce, Phisa 13 Hundley & Hanks, 70 Reade, N. Y. 15 Samuel S. L., 47 Cedar, N. Y. 15 Tennis & Wilson, 83 Beckman, N. Y. 15 Walbridge G. B. 100 Chambers, N. Y. 12 Whitley John R. & Co., London and Parls, 16 | |
| | Fernald & Sise, 100 Chambers, N. Y. Graham & Haines, 113 Chambers, N. Y | |
| | Hundley & Hanks, 70 Reade, N. Y | |
| | Waitridge G. B., 104 Chambers, N. Y | |
| | Whitley John R. & Co., London and Paris | 1 |
| - | Lioyd, Supplee & Watton, 0.5 Market, Phila 12 Shepard Sidney & Co., Buffalo, N. Y 27 Hardware Importers. Boker Hermann & Co., 101 Duane, N. Y 24 McCoy & Co., 134 and 136 Duane, N. Y 20 Hardware Manufacturers. Comly Jas., 4730 Paul st., Philadelphia 10 Coulter, Fingler & Co., 37 Chambers, N. Y 17 Cowles Hardware Co., Unionville, Conn 36 Day, Farrington & Co., 26 Third ave., N. Y 13 Enterprise Mg, Co., Phila 37 Greenfield Tool Co., Greenfield Mass. | |
| | Comly Jas., 479 Paul St., Philadelphia lo Coulter, Flagler & Co., 87 Chambers, N. Y. 12 Cowles Hardware Co., Unionville, Conn. 36 | |
| , | Coulter, Flastler & Co. 37 Chambers, N. Y. Cowles Hardware Co. Unionville, Conn | |
| | Miller's rails Co., 74 Chambers, N. Y | |
| | Shannon J. B. & Sons, 1000 Market, Phila | |
| 1 | Shannon J. B. & Sons, 1000 Market, Phila. 8 Shepard Hardware Co., Buffalo, N. Y. 77 Stanley Works, New Britain, Conn. 8 Star Sait Caster Co., Boston. 22 Tiebout W. & J. 200 Fearl, N. Y. 30 Trenton Lock & Hardware Co., Trenton, N. J. 91 Union Mig. Co., 50 Chandbers, N. Y. 7 Yan Wagoner & Williams, & Beekman, N. Y. 93 Star Sait Conservation 10 Star Sait Conservation 10 Star Sait Conservation 11 Star Sait Conservation 12 Star Sait Cons | |
| - | Union Mfg. Co., oo Chambers, N. Y | |
| | Van Wagoner & Williams, 82 Beekman, N. Y. 96 Hardware Specialities. American Machine Co., ro25 N. 4th, Phila. American Tool Co., 116 Chambers, N. Y. 3 Shepard Sidney & Co., Buffalo, N. Y. 37 Spencer & Underhill, 94 Chambers, N. Y. 8 Sprague Novelty Works, Rochester, N. Y. 91 Weeks A. A. 82 John, N. Y. 9 Harmes Shapps, West Troy, N. Y. 22 Hay K. Inives. Holt Hiram & Co., East Wilton, Me. 13 Hinges. | |
| | Spencer & Underhill. 4 Chambers, N. Y. 8 Sprague Novelty Works, Rochester, N. Y. 91 Weeks A. A. 82 John, N. Y. 92 | |
| | Harness Snaps. Covert Mg. Co., West Troy, N. Y | |
| | Stanton Works Now Britain Conn | |
| | Heg Ringers. Chambers, Bering & Quinlan, Decatur, Iil | 1 |
| | Chambers, Bering & Quinlan, Decatur, Ill | |
| | Harrington Edwin & Son, Philadelphia, Pa | |
| | Wells W. T., 78 Beekman, N. Y | |
| | Boker Hermann & Co., tot & tot Duane W W | |
| | Horse Nalls, Makers of. Aussable Horse Nail Co., 4 Warren, N. Y. Bridgewater Iron Co., Bridgewater, Mass. FP Nail Co., Cleveland, Co., 4 Warren, N. Y. National Horse Nail Co., Vergennes, Vt. 21 | |
| | National Horse Nail Co., Vergennes, Vt. 21 Putnam Nail Co., Boston. 9 Saranac Horse Nail Co. Plattabury N. V. | |
| | Horse Shoes, Makers of. Burden Iron Works, Troy, N. Y. Rhode Island Horse Shoe Co. Providence, R. I. | |
| , | National Horse Nail Co., Vergennes, Vt. 17 Putnam Nail Co., Boston. 9 Saranse Horse Nail Co., Plattaburg, N. Y. 17 Horse Shorten Morks, Troy, N. Y. 18 Bhode Island Horse Shoe Co., Providence, R. I. 31 Schoenberger & Co., Pittsburgh, Pa. 46 Housefurnishing Geods. 9 Pierce Geo. N. Buffalo, N. Y. 33 Hydrauts, &c. McLean John, 300 Monroe, N. Y. 34 Hydrautie, Jacks. 19 Lugon Behard, 24 Columbia, N. Y. 19 Lyon E. & Co., 470 Grand, N. Y. 19 Lee Cream Kreezers. White Mountain Freezer Co., Laconia, N. H. 18 Ice Cream Kreezers. | 1 |
| , | Hydrants, &c. McLean John, 200 Monroe, N. Y | |
| | Hydraulic Jacks. Dudgeon Richard, 24 Columbia, N. Y | 1 |
| | My the Mountain Freezer Co., Laconia, N. H 8 Lee Creepers, Childs, Groff & Co., Cleveland, Ohio | 1 |
| | Hartford Steam Boiler Inspection & Insurance Co. 39 | |
| | Iron Brokers. Boynton Geo. A., 70 Wall, N. Y. Etting Edward J., Philadelphia, Pa. Hatry A. G., Pittaburgh, Pa. 1ron, Charconi. Warm or Cold Blass. Quincy John W., 69 William N. Y. 1ron Commission Merchanus. Balley J. P. & Co., 20 Wall, N. Y. LOWE S. B., Chattanoosa, Tona. Bichel J. 4, 52 Walnut, Philadelphia. S. Walnut, J. & R., 23 Walnut, Philadelphia. S. Walnut, J. & Walnut, Philadelphia. S. Walnut, J. & Walnut, Philadelphia. S. Walnut, J. & Walnut, Philadelphia. J. Walnut, J. & Wa | |
| 2 | Hatry A. G., Pittsburgh, Pa. 1ron, Charconi, Warm or Cold Biass, Quincy John W., 98 William N. Y | |
| | Bailey J. F. & Co., 52 Wall, N. Y. | |
| 2 | Richardson J. O., 232 Dock, Philadelphia | |
| - | Lee James & Co., 72 Pine, N. R. Swan John E. & Bro., Glasgow, Scotland | |
| | Iron Dealers. Abeel Brothers, 100 South, N. Y. Bonnell, Botsford & Co., Youngstown, O. | |
| 5 | Borden & Lovell, 70 and 71 West, N. Y. Carmichael W. J., 130 and 132 Cedar, N. Y. Coopey Daniel F. 88 Washington, N. Y. | |
| 5 | Egleston Bros. & Co., 166 South, N. Y | |
| | Judson B. F., 457 and 459 Water, N. Y. Kane C., Pittsburgh, Pa. Lundberg Gustaf, 38 Kilby, Boston, Mass. | |
| 1 | Middleton W. S., 52 John, N. Y. Ogden & Wallace, 84, 87, 89 and 91 Elm, N. Y. Pierson & Co., 24 Broadway, N. Y. | |
| | Puilman J. Wesley, Philadeiphia, P | |
| | wallace wm. H. & Co., Albany and Washington streets, N. Y | |
| | Iron Dealers. Abeel Brothers, 100 South, N. Y. Bonnell, Botaford & Co., Youngstown, O. Borden & Lovell, 70 and 11 West, N. Y. Carmichael W. J., 120 and 12 Cedar, N. Y. Cooney Daniel F. & Washington, N. Y. Fleiston & Gillion, 6,25 to co Water, N. Y. Hoffman J. W. & Co., 26 & Fourth, Philadelphia, Judson B. F., 457 and 459 Water, N. Y. Kane C., Pittaburgh, Pa. Lundberg Gustaf, 36 Kilby, Boston, Mass. Middleton W. S., 52 John, N. Y. Ogden & Wallace, S., 87, 85 and 91 Elm, N. Y. Pierson & Co., 24 Broadway, N. Y. Pullman J. Wesley, Philadelphia, P. Quincy John W., 58 William, N. Y. Wallace Wm. H. & Co., 41 Bany and Washington streets, N. Y. Warner A. B. & Son, 8 and 29 West, N. Y. Williamson James & Co., 69 Wall, N. Y. Williamson James & Co., 69 Wall, N. Y. Iron. (Manyfoctwerer' Apreals.) | |
| 1 | Hoffman J. W. & Co., 208 S. 4th, Phila | |
| 1 | Levis Henry & Co. Philadelphia, Pa. 5 pron, Mannyacturers of. Albany & Rensselaer Iron & Steel Co., Troy N. Y 8 Bratiley, Reis & Co., New Castle, Pa. Britton Iron and Steel Co., Cleveland, Ohio. 6 Burden Iron Works, Troy, N. Y. Condit, Wick & Co., Cleveland, Ohio. 2 Houdlette & Ellis, Boston, Mass. Kirkpatrick, Beale & Co., Pittaburgh Pa. 4 Klowan Andrew, Pittaburgh Pa. 4 Klowan Andrew, Pittaburgh Pa. 4 | |
| | Burden Iron Works, Troy, N. Y | |
| 5 | Kirkpatrick Beale & Co., Pittsburgh Pa | 1 |

| T | н | E | I | \mathbf{R} | 0 | N | A | G | E |
|----------|-------------------------|-------------------------------|-----------------------|--------------------------|------------------------------|--|---------------------------------------|-------------|--------------|
| 23 | Jnck | Screw | B. 1974- | dear | V+ | | | | |
| 21 | Jacks Dinsi | Lini | ng. lg. Co | 0., 235 | Wash | ington, | Bosto | n | 31 |
| 28 | Dietz DuBr | R. E. S. | and Co., | 56 Ful Cincin | ers of iton. | v. Y | | | 36 |
| 8 | Lathe | ard & M | orse, | 45 Fu | Co | N. Y Philade | lphia | | 3 |
| 36 | Leveli Bickr | ng In | omst | nente | 7 Was | Philade rren, N. | Y | | |
| 8 | Disst | on Hen | rv & | Sons., | Phila | delphia y and Ko , Philade ti, Ohio, geport, C bers, N. | | | 25 |
| 8 | Boha: | nnan W | ilsor | , Bro | adway | Philade | ssuth, | Breol | . 10 |
| 8 | Rome | er & Co | . Ne | wark, | N. J | ti, Ohio. | · · · · · · · · · · · · · · · · · · · | | . 3 |
| an 30 | Yale Lubri | Lock M cator. | fg. C | 0., 53 (| Cham | bers, N. | Y | | . 3 |
| 30 | Mach Bliss | er Stear inery. & Willi | Mak Ams | bricat ers of | or Co | th. Broophila. , Ohio , Ohio , Ohio a orks, 10 ster, N. r. N. y. Waterf. gh, Pa. rd. Comi 179 Libb Midailester. Pa | ille, Co | onn | 27 |
| 30 | Box / | Alfred & | 6 Co | 312 G | reen, t, N. | Phila | | | 35 |
| J30 | Land L. B. | is Ezra Fland | F., L | ancas Machi | ter, P ne W | orks, 10 | 25 Ha | milto | 33 n. |
| 30 | Phi Forse Garv | in E. E. | 2. & C | O., Ma | nche | ster, N. | H | | 16 |
| 27 | Mona Pitts | wk & F burgh M | ludso | n Mfa | ttabu | Waterforgh, Pa. | ord, N. | Y | 35 |
| 36 | Seller The | rs Wm. Stiles & | & Co Pari | o., Phil | lartro la. and ess Co | d 79 Libe | erty st. | N. Y | 34 |
| 6 | Mach | ierili Re inery (| Bar | & Co nes's Fulto | Foot | ster, Pa Powe | F.) | | 35 |
| 5 | Mach | ine Sc ford Ma | rewi | e Sore | kers of | Y | ora, Co | nn | 6 |
| 27 | Wate | ws John | Mfg. | lliam Co., W | sburg | N. Y. | nn | | 32 |
| 5 | Blais | dell P. a | & Co. | Word Dey, 1 | cester N. Y | . Mass | | | 34 |
| 3 | Geo. Harri | Place Management | fachi E. & | nery A | t, N. 1 | y, 121 Ch | Penns | rs, N.Y | 34 |
| 4 | King | J. M. & | delpl | wate | erford | N. Y. | | , , , , , , | 35 |
| 10 | Seller | rs Wm. | & Co | . Phil | a. and | 1 79 Libe | orty st. | , N. Y | 35 |
| | | | | | | | | | |
| 35 | Penfi Mang | eld Bloc | ck W | orks, | Lock | rks, 456 F port, N. | Y | ton | . 25 |
| ks, | | | | | | | | | |
| 28 | Meast | uring Geo. M | Tap | 00., 98 0#. | Chan | n Ave., I | Y | rp. 37 | 36 V as |
| 28 | Murr | ay Iron | ing | Mac ks. B | hine | n Ave., I ry, ton. Iow | a | 11, N. | 4.25 |
| 24 | | | | | | | | | |
| 32 | Pheli | ps, Dod phor B | ge & c | Co., Cl | r. Clif liff, be ltine | and B t and B t. John Co., 203 | k Fulte | n. N. | Y. 4 Y. 2 |
| a | Purv | Phila. | Son, | cor. 8 | outh | and Pen Y. ainut, i do | n, Phil | a | 5 |
| 13 | Read | D. W. | R. & Co., | Co., 2 St. Lo | osie vi | alnut, I | hila | | 6 |
| 8 | School | John. lurgis | Meta | l Mfg. fax, N | Co., c | eotia | h, N. Y | | 3 |
| 16 | | | | | | | | | |
| 27 | Minei Phila Miner | delphi | a Nov | relty 1 | Mfg. C | ut, Phil | herry, | Phila | 9 |
| 24 | Jame | s Boyd | s Soi | 18, 10 8 | and 12 | Frankii | in, N. 3 | v | 6 |
| 10 | Moldi | ng Sa | nd. | ers W | reth | N V | 24. 1 | | 8 |
| 36 | Mous | R.E., | and | 1 56 Fu | lton. | N. Y n N. Y Conn | | | . 36 |
| Pa.21 | Riple | y Mfg. | Co., l | Union | ville, | Conn | | | :: 3 |
| 21 | Rowl | rd Iron | Co., | 81 Wa 30., 92 | shing o N. 1 | rton, N. | Y e, Ave. | Phil | n. 4 |
| 8 | Zug / | t Co., P Machi | ittab | urgh, | Pa | rgn, Pa. | ****** | | :: 4 |
| 8 | Nicke Cond | burgh i Plat it, Han | Mfg. ers' son s | Co., F Supp Van | lies. | rton, N. Delawar rgh, Pa. urgh, Pa de, Newi W. sist. | ark N | ¥ | -34 |
| 7 30 | Zuck Nippe | er & Le | vett, | free An | id 6ar | W. sist. | N. Y | | 23 |
| 8 | Norw | ay Shi | apres m. & | , Roll | lers of y, Fra | New You | Philad | lelphi | n. 26 |
| 3 | MOLE | Droke | T2 | | | | | | 5 |
| 91 | Allen | town F | tollin | man Mil | l Co., | Allento ket, R. I | wn, Pa | | 4 |
| 23 | Stand | ell. Bur lard Nu bergh | dsall it Co. | & Wa. Pitte | rd. Po | il, N. Y f. Allento ket. R. I ort Chest h, Pa | ter, N. | Y | 36 |
| 13 | The read | A. C | - | 46 | | | | | 36 |
| 7 | Chest | ter Iron | Co., | 407 W Co., 20 | alnut | Philad ainut, I ashingt y, N. Y. and, O, | elphia. | hidale | 5 |
| 9834 | Paten Hown Steta | t Solic on & So | on. P | hila. a | and W | ashingt | on, D. | c | 8 |
| 35 | Pens, | Geo. (| U. & I | Co., U | level | and, O. | | | 23 |
| Y35 | Phos | phor B | rong | e Sme | dting | Co., non | i Wasi | himoto | vn I |
| on13 | Piano Beati | ., Phila | delpi | Wash | ingto | n N I | | | 5 |
| 24 | Picks, | Makey on & Co | 9 of. | Broad | lway. | N. Y | | | . 4 |
| 34 | MeNa Pane | b & Ha | run l Mauk | Mig. C | Pear, | John, N Philade | Y | | 33 |
| 21 | McNe Wood | wate | r an | d Ga | s, Me | n, N. J. | delph | | . 6 |
| 9 | Plane | Bros., | Millb | nufac ury, N | furers | n, N. J N. Y rs of. John, N. Philadel kers of. n, N. J ut. Phila | pn | | . 25 |
| 31 | Stanl | ey Rule | and | Level | Co., | og Cham | bers, N | . Y | 10 |
| 33 | Hall, Roge | d War Elton d rs Wm. | & Co. | 75 Ch | ambe | rs, N. Y. | | | 11 |
| 31 | Plews Norw Plum | regian i | Plow | Co., I | Dubuc . Ma | ue, Iow | a | | 22 |
| 9 | Ever | wm. S. | a: Co s. M., | Scrai | Cente | r. N. Y. | | | 35 |
| 8 | Pets | r Herm | etti | & Co., | tor D | ue, Iow | Y | | 24 |
| 21 | Purv | is R. C. | Phi Co. | ladelp Buffa | hia lo, N. | Ý | | ** * | . 31 |
| 3035 | | | | | | | | | 16 |
| 5 | Mohs Press | wk & I | Huds | on Mf | eget e. Co., era of | nble. Waterf ith, Brod len, Con 52 Dey, | ord, N. | Y | 25 |
| 4 | Bliss Merr Peer | & Willi | . H., | West | Meric | ith, Broo | n | | 31 |
| § | Prune | Stiles & | Park | er Pr | ess Co | . Middl | stown. | Ct | 35 |
| 5 | | | | | | | | | 13 |
| 4 | Prov | erline V | V., Cl | orks, | ati, O Lock | hio port, N. ence, R. | y | | 25 |
| 4 | Pump | B, Mak | ers o | hon C | o., Ne | w Lond | on, Cor | nn | . 37 |
| 4 | Gunz | las W. lison A sev & C | & B., B., | Middl Erie, l | Ponn. Falls. | N. Ys, Mo | | | 25 |
| 4 | Rum | ney L. h | d. & (| o., St. 6 Chai | Loui | s, Mo N. Y | | | 32 |
| la 5 | Cami | bria Iro | nnd n Co. otlin | John Mill | astow Co. | kers of. n. Pa Clevelan yne, En | d. Ohi | 0 | 5 |
| 4 | The I | n Bros. | hom | castle son St | e-on-T | yne, En | gland, adway | , N. Y | 16 |
| 4 | Gilm | or Wm. | of C. | Wm., | Baltir | nore, Moleh, N. Y burgh, I | L | ****** | . 36 |
| 5 | Rock | Brea! | kers | to Co. | Pitts | ourgn, l | n | | 13 |
| ion | Gate | a & Scor | vili I | ron W | orks, gh, P | en, Con 52 Canal | l, Chice | .go | 34 |
| 4 | Garri | son A. | ed). & Co. | , Pitt | sburg | h, Pa | | | 6 |
| 4 | J. Mo | rton Po | ole (| 70., W | ilmin | gton, De | 1 | 7 | 33 |
| 5 | Stanl Sad I | ey Rule | and | Level | Co., | 9 Cham | bers, N | r. Y | 10 |
| Y 28 | Chali | ant Mf | g. Co | 35 / 30. Ph | arch, | Philadel | phia | | 6 |
| 4 | Band Sawe | er. Ada | meon meon | & Co. | , 730 l | farket, | Philade | elphie | 10 |
| 4 | Boyn | ton E. I | W Co | Beek Sone | man, | N. J N. Y | | ***** | 36 |
| 29 | Gerla | ch Pete | cabin | Co., Cl | evela. | nd, Ohio | Ohio | 285 | 8 |
| nio. 4 | When | n. N. Y | adde | n & C | lems | en Mfg. | Co., | Midal | 6- |
| ila. 5 | Trun | ip Bros. | Mac | hine urers | Co , W | Vilming | on, De | 1, | 22 |
| 8 | How Rien | e Scale le dros. | Co., I | Sons, Rutlar above | nd, Vt | Philadel lohia wakers q darket, N. J nd, Ohio cinnati e en Mfg. Vilmingt ff, N. Y. | | | 11 |
| 4 | Miles | F. S. 2 | ters o | arry. | Phila | ladeiphi y. cenficia Makers | a. Pa | | . 13 |
| . 4 | Screw | y & Rus | ing l | Mach Mrg. C | iner o., Gr | y. eenfield | Mass | | . 37 |
| w: 4 | Dissi | on Hen | TY & | Sons, | Phila | Makers | 0f , | | . 25 |
| | | | | | | | | | |

| cythes. Beardsley Scythe Co., West Winsted, Coun | Tacks. American Tack Co., Fairhaven, Mass |
|---|--|
| hafting, Makers of. Sellers Wm. & Co., Phila. and 79 Liberty st., N. Y. 15 hears. Renz Hardware Co., Bridgeport, Conn | Carpenter J. M., Pawtucket. R. 1 |
| hears (Shees), Field Alfred & Co., 93 Chambers, N. Y | Wiley & Russell Mig. Co., Greenhelo, Mass. 27 Tin Plate. Importers of N. & G. Taylor Co. Philadelphia. 27 Tin Plate. Manufacturers or. 37 Monitor Tin Plate Works, 54 Cliff. N. Y. 30 U. S. Iron and Tin Plate Co., Pitteburgh. Pa 4 Tin Ware. Stamoed and Japanned Block David, 69 Bayard. N. Y. 27 Risca Particle Co., Buralo, N. Y. 37 Tiscae. Particle Co., Buralo, N. Y. 36 Toe Calks. Ives, Woodruft & Co., Mount Carmel, Conn. 33 Ives, Woodruft & Co., Mount Carmel, Conn. 33 |
| hot, &c. Sparks Thos. W., 121 Walnut, Philadelphia | Tin Ware. Stamped and Japanned Block David, 69 Bayard, N. Y |
| hutters, Steel and Wood. Clark & Co., 162 W. 27th, N. Y | Butler, Jr., H. V. & Co., 34 Rende, N. Y |
| Reeves Paul S., 760 South Broad, Phila | Metcaif, Paul & Co., Pittsburgh, Pa. Trowels. Bruce Geo. W., 1 Platt, New York |
| pelter. Manning & Squier, 113 Liberty, N. Y | Tube Expanders. Dudgeon Richard. 24 Columbia, N. Y |
| Wright Peter & Sons, 52 Broadway, N. Y 5 poons. Rogers Wm. & Son., Hartford, Ct | Twist Drills, Makers of. Norse Twist Drill & Mach Co. N. Bedford Mass. 21 |
| Cary & Moen, 234 W. 29th, N. Y | Uphoisterera' Goods. Turner & Seymour Mfz. Co. 81 Reade, N. Y |
| Babcock & Wilcox, 10 Cortlandt, N. Y | Berry Brothers, Detroit, Mich |
| team Bollers, Babcock & Wilcox, 30 Cortlandt, N. Y. 34 team Hammers, &c., Makers of. Dudgeon Richard, 2s Columbia, N. Y. 9 team Pumps, &c., Manufacturers of. Cameron A. S., East 34d, N. 34 Clayton Steam Pump Works, 14 and 16 Water st., Brooklyn, N. Y. 36 Crane Bros. Mfg. Co., Chicago, Ill. 9844 Keily Wm. E., 40 Cortlandt, N. Y. 22 McGiowan John H. & Co., Cincinnati, O. 35 Storer G. W. 122 N. 34, Philadelphia. 34 The Norwalk Iron Works Co., So. Norwalk, Cl. 33 teel Castings, Manufacturers of 186 | Miliers Falis Co., 74 Chambers, N. Y. Water Wheels, West Reading Pipe and Mach. Works, Reading, Pa.34 Wheels, Ruilroad. Whitney A. & Sons. Philadelphia. Whitney A. & Sons. Philadelphia. Broady Description of the Co., 26, Pearl. N. Y. Jewett John & Sons. 88 Front, N. Y. Jewett John & Sons. 88 Front, N. Y. Juwis John T. & Bros., 231 S. Front, Phila, Pa. 33 Window Hainness. |
| McGowan John H. & Co., Cincinnati, O | Brooklyn White Lead Co., 89 Maiden Lane N. Y., 30 Colgate Robert & Co., 287 Pearl. N. Y |
| teel Castings, Nanufacturers of. Chester Steel Castings Co., Evelina, Phila., Pa | |
| Pittsburgh Steel Casting Co., Pittsburgh, Pa | Hugunin Robt. B., Wethersfield, Conn. 22 Window Springs, Mokers of, Hammond W. S., Lewisberry, Pa. Wire, Manufacturers of, Cary & Moen, 24 W. 20th, N. Y. Cleveland Rolling Mill Co., Cleveland, Ohio. 28 Gautier Steel Co., Ld., Johnstown, Pa. 28, 36 Gilbert & Bennett Mfg. Co., 27, Pearl, N. Y. Griswold J. Wool, Troy, N. Y. Haigh J. Lloyd, 81 John, N. Y. Harrison Wire Co., 88, Louis, Mo. Howard & Morse, 45 Fulton, N. Y. Prentiss Geo. W. & Co., Holyoke, Mass. Trenton Iron Co., Trenton, N. J. Washburn & Moen Mfg. Co., Worcester, Mass. 2 Wire Brawwing Machinery. |
| Pierson & Co. 24 Broadway, N. Y. 4 Wolff B. H. & Co., 16 Cliff, N. Y. 28 teel (Mushet's Special.) Randali & Jones, 10 Oliver, Boston, Mass. 28 teel Manufacturers. 28 | Griswold J. Wool, Troy, N. Y. 2 Halgh J. Lloyd, 81 John, N. Y. 2 Harrison Wire Co., St. Louis, Mo. 2 Howard & Morse, 45 Fulton, N. Y. 2 Preprint Geo. W. Co. Holyoke, Mass |
| Albany & Rensselaer Iron & Steel Co., Troy, N. Y. 28 Atha, Benjamin & Co., 211 Pearl, N. Y. 26 Cleveland Rolling Mill Co., Cleveland, O. 28 Forest City Steel Co., Cleveland, Ohio. 28 | Trenton Iron Co., Trenton, N. J |
| Oattler Steel Co. 1.0. Johnstown, Pa. 26 28 Midvale Steel Works, Nicetown, Phila., Pa. 6 Miller, Metcalf & Parkin, Pittsburgh. 28 Pennsylvania Steel Co., 26 S. 4th, Phila. 6 Rowland Wm. & Harvey, Frankford, Phila. 66 | Wire Goods, Manufacturers of. Dufur & Co & N. Howard st., Baltimore, Md |
| Sanderson Geo. & Co., 30 Gold. N. Y. 78 Smith, Sutton & Co., Pittsburgh, Pa. 28 Singer, Nimick & Co. Pittsburgh, Pa. 6 Spencer J. R. & Son. Sheffied, England, 10 | Wire Nails. American Wire Nail Co Covington, Ky |
| terl Manufacturers, Albany & Renaselaer Iron & Steel Co., Troy, N. Y., & Atha, Benjamin & Co., 211 Pearl, N. Y., | Wire Nails. American Wire Nail Co. Covington. Ky. American Wire Nail Co. Covington. Ky. 20 Dunbar, Hobart & Whidden 39 Warren, N. Y. 7 Field A. & Sons, Taunton, Mass. 0 HP. Nail Co., Cleveland, Ohlo. 24 Wire Rope, Iron and Siteel, Makers of, Eroderick & Bascom, St. Louis, Mo. 2 Haigh J. Loyd, 6: John, N. Y. 4 Hazard Mig. Co., Wilkesbarre, Pa |
| Bauer & Co., 96 Greenwch ave., N. Y., 88 teel Spiral Springs, Manyfacturers of. Cary & Moen, 23 W. 29th, N. Y., 3 Chattilion John & Sons, 91 and 92 Cliff, N. Y., 11 tocks and Dies. | Wrenches, Manufacturers of. Bemis & Call How. & Tool Co., Springfield, Mass. 1; 2; 2; 2; 2; 2; 2; 2; 2; 2; 2; 2; 2; 2; |
| Chatillon John & Sons, 91 and 92 Cliff, N. Y | Girard Wrench Mg. Co., Girard, Pa. 6 Van Wagoner & Williams, 82 Beekman, N. Y. 36 Wood Working Machinery. Forsaith, 8. C. & Co., Manchester, N. H. 16 |
| Ansonia Brass and Copper Co., 19 and 21 Cliff, N. Y 9 Shepard Sidney & Co., Buffalo, N. Y 27 tove Trucks, Tucker Alarm Till Mfg. Co., Indianapolis, Ind10 | Wringers. Alexander T. J., Boston, Mass. Alexander T. J., Boston, Mass. Metropolitan Washing Machine Co., 52 Cortiandt, N. Y. Peerless Wringer Co., Cincinnati, O. 13 |
| | |

ZUCKER & LEVETT, NICKEL PLATERS' SUPPLIES.

Estimates for Complete Outfits Furnished. 639 & 641 West 51st Street, New York.

ENTERPRISE Mfg. CO. of PA.

PATENTED HARDWARE MANUFACTURERS & IRON FOUNDERS,

THIRD and DAUPHIN Sts., PHILADELPHIA.

HORACE DURRIE & CO., 97 Chambers Street.



SPECIALTIES.
Enterprise Patent Cold Handle Double Pointed

Enterprise Patent Cold Handle Double Pointed

SMOOTHING & POLISHING IRONS
CHAMPION TOBACCO CUTTERS,
PATENT MEASURING FAUCETS.
FRUIT, LARD and JELLY PRESSES, PATENT MEASURING FAUCETS, SELF-WEIGHING CHEESE KNIVES,

CHAMPION DRIED BEEF SHAVERS, Coffee Roasters, Bung-Hole Borers, &c., &c.



EMPIRE FORGES IMPROVED without Belts, Bellows, Crank Pins, Dead Certer Send for circular. EMPIRE PORTABLE FORGE CO. LCOHOES, N.

has ruled strong during the week, for reasons already stated, and is not unlikely to go somewhat higher still, although shipments go somewhat higher still, although shipments have receded to a very marked extent, as compared with those a few weeks ago. There are now, according to John E. Swan & Bros., 389,617 tons in Connal's stores at Glasgow, against 199,283 this date last year, while the number of operative furnaces in Scotland is 99, against 92 a year ago. The total shipments this year to date have increased 153,287 tons, about three-fourths foreign and the balance coastwise. Ballast pig iron is still held at 45/ \$\frac{1}{2}\$ ton, delivered alongside ship in the Forth or Clyde. Importations from Middlesboro' into Grangemouth are again increasing, although the aggregate are again increasing, although the aggregate to date shows a falling off of 30,014 tons for for this year.

Included in last week's exports were pigs worth £4305 for New York, and £1068 for Baltimore. The shipments of manufactured iron and machinery were worth £30,000, including £3240 old rails for New York and £1012 Baltimore

CLEVELAND PIG IRON is now quoted as under for G. M. B.:

All net cash, delivered f. o. b. at makers' wharves in the Tees wharves.

cons of estimated to be research and the northern rivers.

FROM SHEFFIELD

such news as is to hand is fairly hopeful and cheerful. Many of the lighter trades are now enjoying comparative prosperity, and some are even doing more business than is usual at this period of the year. This, I understand, is the case with the electroplaters and the skate manufacturers. The latter did a "roaring" turnover last year, and they are disposed to think that they have now got another splendid "boom" on hand. The crucible steel houses are doing more work, a considerable proportion of their additional output being destined for your market, whence a number orders have recently here orders have recently here. orders have recently been received at Steelopolis. The heavy iron works are fairly
busy all round, alike on railway materials,
ship plates, beams and angles, and general
merchant qualities. The armor plate mills
are moderately busy, John Brown & Co.
having a good order from the Argentine
Republic. The rail mills are full of orders
and the Bessemer works well employed in
all directions. By the all directions. By the

which occurred here, suddenly, early yesterday morning, Sheffield will at once have a keenly contested election forced upon it.

Mr. Roebuck had for a long series of years occupied a singularly prominent and independent position as the senior parliamentary representative of Sheffield. He was never allied to any party, and prided himself upon being a terror alize to friend and foe, a man whose vote could not be absolutely depended upon by either of the whips. As "Tear'em" Mr. Roebuck was known for many years, and was held in high esteem. His grandfather, I may say, was the Dr. DEATH OF MR. ROEBUCK, His grandfather, I may say, was the Dr. Roebuck who founded the Carron Iron Works, Roebuck who founded the Carron Iron Works, Scotland, where he accumulated a large fortune, which he afterwards lost in shale-oil mining in the same country. The Liberal candidate for Sheffield will be Mr. Waddy, Q. C., now M. P. for Barnstaple. The Conservatives will probably bring forward either Mr. Mark Firth (of Thomas Firth & Sons), Mr. H. E. Watson, a local solicitor, or Mr. Stuart Wortley, a nephew of the Earl of Wharnchiffe, whose large estates are very near the town. If Mr. Firth can be persuaded to stand, I should be inclined to think his election almost, or quite certain.

THE MIDDLEMAN

in trade in this country will sooner or later be a doomed figure, and will have to retire into obscurity. The tendency of all modern business is to establish direct relations between the manufacturer or producer and the actual consumer. In some branches of com-merce this is being slowly but surely effected by means of agencies, especially in London, where matters are on such an enormous scale that there is ample scope, and room to spare for the most energetic of men to devote all their energies to the sale of any given article. In the smaller towns and the provinces the middleman may, and probably will, long survive as a man who stocks and vends the wares of many producers, none of whom would find it pay them to retain the services of a special agent for the limited business which he might at the very best be enabled to command. In London the Scotch stove-grate houses and general founders, who have made Thames street their selected who have made Thames street their selected center, have for some time been supplying the builders and others on terms which in all probability differ very little from those which are accorded to the ironmongers. Other houses in the metropolis make it a rule to regulate their terms by quantities alone, without any especial regard whether or not their customer is in "the trade." Thus if a buyer requires one article the price is so much; if two or more a corresponding reduction is given on each; so that the large buyer is alone the wholesale buyer ponding reduction is given on each; so that
the large buyer is alone the wholesale buyer
and he only gets best terms. For this latter
mode of conducting business there is probably much to be said. One of the latest, and,
from a public point of view, best, developments of this policy is found in a meeting of
Northern coal owners in London (at Morley's
Hotel, a place long sacred to Americans) on
Saturday to consider the position of the trade
with respect to consumers in the great
metropolis. It was stated that the present
average cost of coal in the Pool (a part of
the Thames just below London Bridge) did
not exceed 16/per ton, whereas the retail
prices ranged from 22/ to 27/per ton. The
coal merchants of London have a ring which
fixes selling prices, and these now leave profixes selling prices, and these now leave profits of 6/ to 10/ per ton. The coal owners did not object to a profit of 5/ per ton, but they alleged that such a state of things robbed the consumers and left them (the

field, have secured an order for about seven colliery proprietors) no profit whatever. It miles of these rails for the town of Oldham.

SCOTCH PIG IRON

colliery proprietors) no profit whatever. It was stated that one firm of London coal merchants alone made a yearly profit of not less than £50,000. Further measures will be taken to disturbe this enormous and anomalous state of affairs. The supply of 4,500,000 persons is certainly a prize worthy of being ardently contended for.

STAFFORDSHIRE AND BIRMINGHAM

are without especial change to note, although it must be recorded that their principal industries are fairly well engaged all round. In the iron trade the process of revivification which has been set on foot of late is progressing apace, and there is a general furbishing up of old plant and a restarting of long-idle furnaces. The galvanizers have again advanced quotations 20/a ton, and several of the finished iron makers have declared medium and common bars, sheets, declared medium and common bars, sheets, plates and hoops up another 10/ per ton. At Warrington (which is in Lancashire, bythe-by) iron wire is up 20/ and steel wire 30'. Cut nails, tacks, and many other minor hardwares are advanced by 5 to 10 per cent. less discount, with every prospect of the new rates being steadily maintained. People are now showing less fear as to the stability of the revival and most of the stability of the revival, and most of the hesitation is shown by purchasers.

PAT. "SCREW WINDOW BALANCES."

Liberal Discount to the Trade.



GREENFIELD TOOL CO., Greenfield, Mass.

NATIONAL STEAM PUMP

Adapted to every possible Duty. Send for Illustrated Catalogue.

WM. E. KELLY, New Brunswick, N. J. New York Salesroom, 40 Cortlandt St.



The Nutrizio COFFEE POT

ber 3, 1876. unt 30 per cent. Net H. NUTRIZIO,

VERMONT SNATH CO.,

Pat. Swing Socket Snaths

and also a large variety of other styles of Snaths

Springfield, Vermont.

Special Notices. DISCOUNT

Revised to date,

Enlarged and Improved. Common Bolts, Common Bolts (old list). Philadelphia Bolts, Machine Bolts,

Coach or Lag Screws.

A handsome cloth bound book of 30 pages, arranged with an index to the different kinds of bolts, and with lines and distinctive type, so the bolts, and with lines and distinctive type, so eye can follow sizes and discounts quickly and curately. This book has no advertisements in curately. This book has no advertisements in it, but is arranged entirely in the interest of the trade. The form of the book and arrangement of the tables is such that there is a great deal of matter within a very reasonable space. My old discount bolt lists have proved very useful, and this is a vast improvement on either of the former

PRICE, \$1.50 EACH. Please send money with orders.
BUELL LAMBERSON,
97 Chambers St., N. Y.

LEIGHS Discount Book.

Specially arranged for the Hardware and other trades using Combination Discounts. Mailed postpaid on receipt of price.

Bound in Leather, Silicate Leaves.

EDWARD B. LEIGH, St. Louis Elevator, St. Louis, Mo.

Or either of the Publishers, viz IVISON, BLAKEMAN, TAYLOR & CO., New York

R. & T. A. ENNIS, St. Louis. Situation Wanted.

By a married man as cashier, bookkeeper, as

THE BEST ARE THE CHEAPEST!



SCROLL SAWS, Warranted the Most Accurate and Durable.

The Trump Lathe Chucks.

Three Jaws, Self-Centering. Equal to the best. For drills % and under. Price, \$1.50 to \$2.25.



Trump Bros. Machine Co., Wilmir gton, Del., U. S. A. Send for circulars.

NORWEGIAN PLOW CO., DUBUQUE, IOWA.

W. C. CHAMBERLIN,
President.
C. W. MITCHELL,
Vice President.
GEO. STEPHENS,
Sec'y and Treas.
H. H. SATER,
Superintendent,

Manufacturers of the Celebrated CAST STEEL DIAMOND-HARDENED



OUR SPECIALTY.—Plows for difficult soils and of great durability. Also, Scrapers for railroad work. For durability and scouring qualities the best Plows produced in the country. Warranted to scour in any soil. Made with extra thick points and shins. Symmetrical and correct in model. Easy running and thoroughly pulverizing the soil. Agents Wanted Everywhere.

THE STAR SALT CASTER CO., Office, No. 161 FRANKLIN ST., BOSTON, Manufacturers of

Specialties in House Furnishing Hardware.
PATENT EXTENSION DOOR KNOBS



(Pat. Jan. 29, 1878) manufactured in every variety of style. Silver-Glass, Silver Center, Fine Cut, &c. Fitted with heavy silver-plated mountings. Extend from 1 to 3 inches. They can be adjust-ed to doors of any thickness without the annoyance of

old-fashioned washers and pins. Our "Patent Cham-ber" (Pat. Nov. 6. bulbs.
A trial will make plain their merits.
Send for illustrated price lists and circulars.

THE STAR SALT CASTER CO., Boston, Mass.







since the introduction of this popular and useful little article. Sales last season larger ticle, Sales last season larger that the article has real merit, and that the ple want it and will buy it. Every hardware ler or general storekeeper should have them tock. Special terms to axe manufacturers, ing bought our stock before the recent adee in fron, we shall sell at former prices, \$4.80 gross; one dozen by mail, to cents; one each (3 sizes), 25 cents. Single sample, 10 cents, age prepaid.

ployer. Salary moderate.

Address,
Office of The Iron Age, 83 Reade St., New York.

Postage prepaid.
Postage prepaid.
Postage prepaid.
Postage prepaid.
R WOOSTER,
Formerly Am. S. & C. Iron Co.,
Manufacturers and Dealers in Carriage Hardware.

COVERT'S

Patent Improvement in



No more Splicing or Winding Ends with Cord.



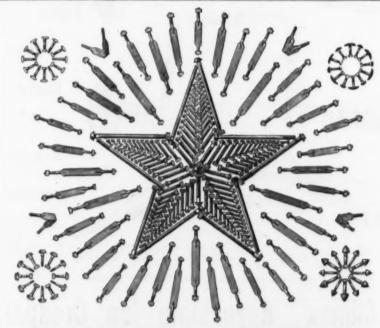
No. 1.

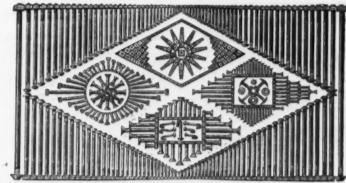
Rope Halters, Horse Ties, Cattle Ties, Halter Leads, &c., made by clamping the lap with steel rings, as shown in cut. Also, clamping the end with a ring to prevent unbraiding. This is all accomplished by machinery, and a superior article can be made at so much less cost, it will not pay any one to make up goods the old way. We are new prepared to furnish the trade the cheapest and best Rope Halters ever made. No. 1 illustrates the twisted and irregular form of the spliced Halter 1 also the insecure method of whipping the end with cord, which invariably comes off, and allows the rope to untwist. No. 2 illustrates the New Halter. It is made by clamping the laps with steel rings. The end is also secured with a steel ring, which will remain as long as the rope lasts. We have also a full line of

COVERT'S HORSE AND MULE JEWELRY.



Consisting of Covert's Celebrated Harness Snaps, Swivel Snaps, Open Eye Bit and Chain Sn and Thimble for Horse and Cattle Ties, Rope Goods, consisting of Horse Iries, Cattle Ties at Leads, Leather Horse Ties, Breast Chains, Halter Chains, Martingale Chains, Rein Chains, Post Rods, &c. These goods are far superior to anything of the kind on the market. They be real merit become standard, and never fail to give entire satisfaction. They are sold by all les bers in general and saddlery hardware at manufacturers' prices. Send for illustrated catale price list. Address COVERT MFC. CO. Sole Manufacturers, West Trop, N. Y.





Norway and Charcoal Iron Carriage Bolts, Tire and Faucy Head Bolts, "Star" Axle Clips. Quality guaranteed. Finish unexcelled.

TOWNSEND. WILSON & HUBBARD.

2301 Cherry Street,

Philadelphia, Pa.



THE E. HORTON & SON CO., Windsor Locks, Conn.

From this date a discount of 30 per cent will be made from the price HORTON LATHE CHUCK. They a'so manufacture the **Sweetland Improved Chuck**. April 1, 1879. Send for Price List.

[See advertisement in The Iron Age of December 4, 1879. WHEELER & MELICK CO., ALBANY, NEW YORK, U. S. A.,

IMPROVED FARM IMPLEMENTS AND MACHINERY.



Beardsley Scythe Co., GRASS, GRAIN & BUSH SCYTHES, Hay Knives & Corn Knives.
West Winsted, Conn.

The Iron Age Directory

| The Iron Age Directory | Faucets, Scif-Massuring, Makers of. Enterprise Mig. Co., of Pa., Phila. and N. Y. Lane Bras., Million, N. Y. Files, Importers of Science, |
|--|---|
| and Index to Advertisements. | Carr J. & Riley, 82 John, N. Y |
| Page | Auburn File Works, 80 Chambers, N. Y Barnett G. & H., 41 and 43 Richmond, Phila. Disston Henry & Sons, Phila. |
| Agricultural Implements. Johnson, Gere & Truman, Owego, N. Y. Wheeler & Melick Co., Albany, N. Y | Everhart James M., Scranton, Pa. Johnson & Bro., 1 Commercial, Newark, N. McCaffrey & Bro., 1722, and 1734 N., 4th. Phila |
| Clayton Steam Pump Works, 14 and 16 Water St., Brooklyn, N. Y | Nicholson File Co., Providence, R. I |
| Anti-Friction Metals. Reeves Paul S. Philadelphia, | Fire Arms. Conway T. G., go Chambers, N. Y Fire Brick, Makers of. Rorgner & O'Brice, Philadelphia, Pa |
| Jonnson, cere & Fruman, Owego, N. Wheeler & Melick Co., Albany, N. Y | Speacer J. R. & Son. Sheffield, England Forway T. G., so Chambers, N. Y. Fire Brick, Makers of. Brooklyn Clay Refort and Fire Brick Worl Dyke St., Brooklyn, N. Y. Gardner strothers, Pittsburgh, Pa. Hall & Sons, Buffalo, N. Y. Kreischer B. & Sons, & Goerck, N. Y. Maurer Henry, 448 East 22d, N. Y. Maurer Henry, 448 East 22d, N. Y. Ostrander James & Son. Troy, N. Y. Perth Amboy Terra Cotta Co., Perth Amboy Valentine M. D. & Bro., Woodbridge, N. J. Watson John R., Perth Amboy, N. J. Flint and Emery Paper and Cloth. Baeder, Adamson & Co., 730 Market, Phila. Fluting Machines. Shepara Hardware Co., Buffalo, N. Y. Forges, Portable, & Co. |
| Augers, Bits, etc., managacurers of Jennings C. E. & Co., 98 Chambers, N. Y | Hall & Sons, Buffalo, N. Y |
| Axe Wedge. Porter & Wooster, Boston | Ostrander James & Son, Troy, N. Y. Perth Amboy Terra Cotta Co., Perth Amboy Valentine W. D. & Bro., Woodbridge, N. J. |
| Cook R. & Sons, Winsted, Conn. 6 Hotchkiss Guy C., Field & Co., 622 E. 14th, N. Y. 31 Lambertville Iron Works, Lambertville, N. J. 7 | Watson John R., Perth Amboy, N. J. Flint and Emery Paper and Cloth. Baeder, Adamson & Co., 730 Market, Phila. |
| Babbit Motal. Philadelphia Smelting Co., 12th and Noble, Phila29 Bag Holder. | Fluting Machines. Shepard Hardware Co., Buffalo, N. Y Forges, Fortable, &c. |
| Barb Wire. | Kovetone Portable Forge Co., Contoes, N. 1 |
| Scutt H. B. & Co., Bultato, N. Y. Bed Screws. Shelton & Co., Birmingham, Ct. Bellows. Manufacturera of. Scott Geo. M., Chicago, Ill. Bells (Sleigh.) Bevin Bros. Mfg. Co., Easthampton, Coan. Solicing, Makers of. Alexander Bros., 412 N. 3d, Philadelphia | Fossiliterous Oress. Brown T. J., Rockwood, Tenn. Foundry Facings. Faxon J. W. & Co., 514 Beech, Phila. Friedhead Bros., 517 W. 15th, N. Y. |
| Bells (Heigh.) Bevin Bros. Mig. Co., Easthampton, Conn | w intenead Bros., 517 W. 15th, N. Y. Fry Pans. N. Y. Stamping Co., 311 Avonue A, N. Y. Furnneces, Makers of. Richmond & Potts, 119 S. 4th, Phila., Pa Furniture Springs. |
| Alexander Bros., 412 N. 30, Philadelphia31 Forepaugh Wm. F., Jr., & Bros., Philadelphia31 N. Y. Belting and Packing Co., 37 Park Row, N. Y., 9 Bicycles. | Carr & Moon on W noth N W |
| Bleyeles. Pope Mig. Co., 6; Summer, Boston | Furniture Springs. Cary & Moen, 23, W. 20th, N. Y. Haigh J. Lloyd, & John, N. Y. Galvanized I rem. Lefferts Marshall, 90 Beekman, N. Y. |
| Lindeman O. & Co., 254 Pearl, N. Y. 3 Maxheimer John, 247 and 249 Pearl, N. Y. 7 Bit Braces, Manufacturers of. 7 | Garden Tools. Dunlap C. W. & Co., 43 Chambers, N. Y Enterprise Mfg. Co., Geneva, Ohio |
| Fray & Pigg, Bridgeport, Ct Millers ralis Co., 7a Chambers, N. Y | Gearing. Comly J., Lincoln Park, N. J. Governors. Judson Junius & Son, Rochester, N. Y. Smylle M. C. & W. D., Philadelphia. |
| Burr & Co., 31 Peck Slip, N. Y. 24 McMillan Wm. H. & Bro., 113 South, N. Y. 6 Penfield Block Works, Lockport, N. Y. 25 | Grates. Pennsylvania Heating and Ventilating Philadelphia. |
| Providence 1001 Co., Frovidence, K. 1 | Wood H. S. & Co., 23 West, N. Y |
| Sturtevant B. F., Boston | Wood H. S. & Co., 23 West, N. Y. Wood Walter R., 283 and 285 Front, N. Y. Worthington & Sons, North Amherst, Ohio Gunpowder, Makers of. Kneeland F. L. (Dupont) 70 Wall, N. Y. Laflin & Rand Powder Co. 29 Murray, N. Y. |
| Surrevaus F., Bot Cutters. National Bolt and Pipe Mach. Co Cleveland, O 34 Sellers Wm. & Co., Phila and 79 Liberty st., N. Y., 34 Wiley & Russell, Greenfield, Mass 27 Bolt Forging Machines. Forsaith, S. C. & Co., Manchester, N. H | Handles. Makers of. Hartigan Wm. R., Burlington, Conn Hundley & Hanks. 70 Reade, N. Y |
| Bolts (Screw.) Coleman Eagle Bolt Works, Philadelphia Brass, Manufacturers of. | Hardware Commission Merchants. Fernald & Sise, 100 Chambers, N. Y Graham & Haines, 113 Chambers, N. Y |
| Ansonia Brass and Copper Co., 19 Cliff, N. Y. 2 Bridgeport Brass Co., Bridgeport Conn. 2 Brass Goods Mfg. Co., 43 Chambers, N. Y. 31 | Lafin & Rand Powder Co. 20 Murray, N. Y. Handles. Makers of. Hartigan Wm. R., Burlington, Conn. Hundley & Hanks, 70 Reade, N. Y. Hardware Commission Merchants. Fernald & Sise, 100 Chambers, N. Y. Graham & Haines, 113 Chambers, N. Y. Heaton & Denckla, 507 Comperce, Phia. Hundley & Hanks, 70 Reade, N. Y. Samuel S. L., 57 Cedar, N. Y. Tennis & Wilson. 82 Beekman. N. Y. Walbridge G. B., 102 Chambers, N. Y. Whitley John R. & Co., London and Parls. Hardware Bealers. |
| Davoi John & Sona, 100 John, N. Y. Holmes, Booth & Haydens, 49 Chambers, N. Y. 2 Manhattan Brass Co., 83 Reade, N. Y. 2 Marchant & Co., 507 Market st. Phila. 2 | Waibridge G. B., 104 Chambers, N. Y Whitley John R. & Co., London and Paris |
| Forsaith, S. C. & Co., Manchester, N. H., 16 Boits (Screw.) Coleman Eagle Bolt Works, Philadelphia. Brass, Manwfacturers of. Ansonia Brass and Copper Co., 19 Cliff, N. Y. 2 Bridgeport Brass Co., Bridgeport. Conn. 2 Brass Goods Mg. Co., 43 Chambers, N. Y. 2 Brass Goods Mg. Co., 43 Chambers, N. Y. 2 Holmes, Booth & Haydens, 49 Chambers, N. Y. 2 Manhattan Brass Co., 53 Reade, N. Y. 2 Merchant & Co., 60 Market st., Phila. 27 Plume & Atwood Mg. Co., 80 Chambers, N. Y. 2 Rome Iron Works, Rome, N. Y. 3 Sovill Mg. Co., 42 Broome, N. Y. 2 Waterbury Brass Co., 36 Broadway, N. Y. 2 Brass Founders. | |
| Waterbury Brass Co., 200 Broadway, N. Y | Boker Hermann & Co., 101 Duane, N. Y McCoy & Co., 134 and 136 Duane, N. Y Hardware Manufacturers. |
| Miller S. P. & Son, 300 S. Fitth Phila | Lioyd, Supplee & Watton, 03; Market, Phila Shepard Sidney & Co., Buffalo, N. Y. Hardware Importers. Boker Hermann & Co., 101 Duane, N. Y. McCoy & Co., 134 and 136 Duane, N. Y. Hardware Manulacturers. Comiy Jan 4759 Paul. et., 101 Duane, N. Y. Hardware Manulacturers. Comiy Jan 4759 Paul. et., 101 Duane, N. Y. Cowles Hardware Co., Unionville, Conn., Day, Farrington & Co., 201 Duanelle, Conn., Day, Farrington & Co., 101 Duanelle, N. Y. Enterprise Mfg. Co., 101 Duanelle, Mass. Lloyd, Supplee & Watton, 03 Market St., Ph. Miller's Falls Co., 74 Chambers, N. Y. Paysoa Mfg. Co., 130 W. Jackson, Chicago, Phila, Novelty Mfg. Co., 81 Cherry Phila, Shenard Hardware Co., Buffalo, N. Y. Stanley Works, New Britain, Conn. Star Salt Caster Co., Boston. Tiebout W. & J., 20, Pearl, N. Y. Trenton Lock & Hardware Co., Trenton, N. Union Mig. Co., 50 Chambers, N. Y. Hardware Specialities. |
| Butcher and Shoe Knives, Manufacturers of. Wilson John, Sheffield, England | Enterprise Mfg. Co., Phila. Greenfield Tool Co., Greenfield, Mass. Lloyd, Supplee & Walton, 025 Market St., Phi |
| New England Butt Co., 30 Platt, N. Y 27 Sabin Mg. Co., Montpeller, Vt. 27 Stanley Works, New Britain, Conn. 82 | Payson Mfg. Co., 1319 W. Jackson, Chicago. Phila. Novelty Mfg. Co., 821 Cherry Phila., Shannon J. B. & Sons, 1000 Market, Phila. |
| Union Mfg. Co., 98 Chambers, N. Y | Shepard Hardware Co., Buffalo, N. Y Stanley Works, New Britain, Conn Star Salt Caster Co., Boston |
| Townsend, Wilson & Rubert of The Carriage Hardware, Makers of. Pim Richard P., Wilmington, Del. 6 Smith H. D. & Co., Plantsville, Conn. 12 | Trenton Lock & Hardware Co, Trenton, N. Union Mig. Co., 99 Chambers, N. Y. Van Wagoner & Williams, & Beekman, N. Y. |
| Brass Founders. Reeves Paul S., Philadelphia | Hardware Specialties. American Machine Co., 1925 N. 4th, Phila American Tool Co., 116 Chambers, N. Y. |
| | Shepard Sidney & Co., Buffalo, N. Y |
| Clark Geo. P., Windsor Locks, Conn | Van Wagoner & Wilmans, of Beekman, N. 1 Hardware Specialties. American Machine Co., 1925 N. 4th, Phila. American Tool Co., 116 Chambers, N. Y. Shepard Sidney & Co., Buffalo, N. Y. Spencer & Underhill, of Chambers, N. Y. Sprague Novelty Works, Bochester, N. Y. Weeks A. A. & John, N. Y. Harness Smass. Covert Mix. Co., West Troy, N. Y. Harles Shales. Hard E. M. West Troy, N. Y. Harles Smass. |
| Castings, Iren. St. Louis Malleable Iron Co., St. Louis, Mo | |
| Chiseis, Manufacturers of. Buck Bros., Millbury, Mass | Chambers, Bering & Quinlan, Decatur, Ill Holsting Engines, Makers of. Crane Bros., Mfg. Co., Chicago, Ill |
| Cushman, A. F., Hartford, Conn | Stanley Works, New Britain Conn. Hog Ringers. Chambers, Bering & Quinlan, Decatur, Ill Hoisting Engines. Makers of. Crane Bros Mfg. Co., Chicago, Ill Hoisting Machines. Box Alfred & Co., 12 Green, Phila Clem & Morse, 415 Cherry, Philadelphia Harrington Edwin & Son, Philadelphia Harrington Edwin & Son, Philadelphia. Philadelphia. Holis Warr. Ware. Wils W. T., 75 Beekman, N. Y. Hooks (Cotton & Bair.) New York Handle & Mallet Works, 456 E. Ho Horse Clippers. Boker, Hermann & Co., 101 & 102 Duane, N. Y. Harse Nalls. Makers of. |
| Dunbar Bros. Bristol. Conn 90 Conl. Miners of Conn 90 Ely E. B. & S. W., New York. 8 Pardee A. & Co., 111 Broadway, N. Y. 6 The Hoboken Conl Co., Jorney City, N. J. 6 | Hollow Ware. Wells W. T., 78 Beekman, N. Y |
| Esterbrook Wm., air Cherry, Phila | New York Handle & Mallet Works, 456 E. Ho Horse Clippers. Boker. Hermann & Co., 101 & 102 Duane, N. Y |
| Coal Fases. Sheard Sidney & Co., Buffalo, N. Y | Horse Nails, Makers of. Ausable Horse Nail Co., 4 Warren, N. Y Bridgewater Iron Co., Bridgewater, Mass., |
| Enterprise Mrg. Co., Philadelphia, Pa. 23 Coke. Wister Francis, 230 S. Third, Phila. 4 | National Horse Nail Co., Vergennes, Vt Putnam Nail Co., Boston Saranac Horse Nail Co., Plattsburg, N. Y |
| Coke. Wister Francis, 250 S. Third, Phila. Compasses and Dividers, Manufacturers of. Compasses and Tool Co., SpringSold, Mass5423 Coppers | Burden Iron Works, Troy, N. Y. Rhode Island Horse Shoe Co., Providence, E. Schoenberger & Co., Pittsburgh, Pa. |
| Copper, Merchant & Co., 507 Market st., Phila | Boker, Hermann & Co., tot & 102 Duane, N. Y. Harse Nalls, Makers of, Ausable Horse Nail Co., 4 Warren, N. Y. Ausable Horse Nail Co., 5 Erdgewater, Mass. F. Nail Co., Cleveland, O. National Horse Nail Co., berdgewater, Mass. F. Nail Co., Cleveland, O. National Horse Nail Co., Vergennes, Vt., Putnam Nail Co., Boaton, Saranae Horse Nail Co., Pitatisburg, N. Y. Horse Shoes, Makers of, Burden Iron Works, Troy, N. Y. Rhode Island Horse Shoe Co., Providence, E Schoenberger & Co., Pitatisburgh, Pa. Housefurnishing Geods, Fierce Geo. S., Burdalo, N. Y. McLean John, 30 Monroe, N. Y. Mchawk & Hudson Mfg. Co., Waterford, N. Hydraulic Jacks, Dudgeon Richard, 24 Columbia, N. Y. Lyon E. & Co., 470 Grand, N. Y. Lyon E. & Co., 470 Grand, N. Y. Lee Cream Kreezers. White Mountain Freezers. |
| Moselev Iron Bridge and Roof Co., 5 Dey, N. Y 5 Countersink. Barber D. F., 1331 Washington, Boston | Mchawk & Hudson Mfg. Co., Waterford, N. Hydraulic Jacks. Dudgeon Richard, 24 Columbia, N. Y |
| Countersink. Barber D. F., 131 Washington, Boston. Cradies Grain. Grain Fan Mill and Cradle Co., Moirose, N. Y 21 Crucibles, Managacturers of. Wile, Sledel & Co., 700 Market, Phila | Ice Cream Kreezers. White Mountain Freezer Co., Laconia, N. H. |
| Wile. Siedel & Co., 70 Market, Phila. 31 Carler I. Professor Co., 10 Duane, N. Y. 24 Clatworthy F. & W. & Chambers, N. Y. 25 Clatworthy F. & W. & Chambers, N. Y. 26 Clatworthy F. & W. & Chambers, N. Y. 27 Burkinshaw Aaron, Pepperell, Mass. 28 Goodel Company, Antrim, N. H. 29 Henry Seymour Cutlery Co., 36 Chambers, N. Y. 30 Meriden Cutlery Co., 40 Chambers, N. Y. 31 Meriden Cutlery Co., 40 Chambers, N. Y. 32 Meriden Cutlery Co., 40 Chambers, N. Y. 33 Meriden Cutlery Co., 40 Chambers, N. Y. 34 Meriden Cutlery Co., 40 Chambers, N. Y. 35 Meriden Cutlery Co., 40 Chambers, N. Y. 36 Meriden Cutlery Co., 40 Chambers, N. Y. 37 Meriden Cutlery Co., 40 Chambers, N. Y. 38 Meriden Cutlery Co., 40 Chambers, N. Y. 39 Meriden Cutlery Co., 40 Chambers, N. Y. 30 Meriden Cutlery Co., 40 Chambers, N. Y. 31 Meriden Cutlery Co., 40 Chambers, N. Y. 32 Meriden Cutlery Co., 40 Chambers, N. Y. 33 Meriden Cutlery Co., 40 Chambers, N. Y. 34 Meriden Cutlery Co., 40 Chambers, N. Y. 35 Meriden Cutlery Co., 40 Chambers, N. Y. 36 Meriden Cutlery Co., 40 Chambers, N. Y. 36 Meriden Cutlery Co., 40 Chambers, N. Y. 37 Meriden Cutlery Co., 40 Chambers, N. Y. 38 Meriden Cutlery Co., 40 Chambers, N. Y. 39 Meriden Cutlery Co., 40 Chambers, N. Y. 30 Meriden Cutlery Co., 40 Chambers, N. Y. | Insurance, Boiler. Hartford Steam Boiler Inspection & Insuran |
| Cutlery, Manyacturers of Chambers, M. I | Boynton Geo. A., 70 Wall, N. Y Etting Edward J., Philadelphia, Pa |
| Henry Seymour Cutlery Co., & Chambers, N. Y 10 John Russell Cutlery Co., 90 Chambers, N. Y 10 Meriden Cutlery Co., 40 Chambers, N. Y 10 | lren, Charconi, Warm or Cold Biast, Quincy John W., 98 William N. Y |
| Rogers Wm. & Son., Hartford, Ct. The Lamson & Goodnow Mig. Co., 88 Chambers, N. Y. | Lowe S. B., Chattanooga, Tenn |
| Wallace Bros. Wallingford, Ct | Iron Brokers. Boynton Geo. A., 70 Wall, N. Y. Etting Edward J., Philadelphia, Pa. Hatry A. G., Pittaburgh. Pa. Iron, Charcont. Warm or Cold Blass. Quincy John W., 69 William N. Y. Iron Commission Merchants. Balley J. F. & Co., 50 Wall. N. Y. Lowe S. B., Chattanooga. Tenn. Bight J. J., 49 Walmut. R., Philadelphia. Wister L. & R., 32 Walmut. Philadelphia. Wister L. & B., 32 Walmut. Philadelphia. Wister L. & B., 32 Walmut. Philadelphia. Wister L. & B., 35 Walmut. Philadelphia. Wister L. & B., 55 Wallow. Socialand. Williamson James & Co., 59 Wall, N. Y. Iron Dealers. |
| Yale Lock Mg. Co., 53 Chambers, N. Y | Williamson James & Co., 69 Wall, N. Y Iron Dealers. About Prothers are South W. V. |
| Discount Tables. Lough Edwid. B., St. Louis Elevator, St. Louis, Mo. 16 Door and Gate Springs. | Bonnell, Botsford & Co., Youngstown, O Borden & Lovell, 70 and 71 West, N. Y Carmichael W. J., 130 and 132 Cedar, N. Y |
| Wallace Bros., Wallingford, Ct. Dash Lamps. White Mfg. Co., Bridgeport, Conn. Differential Pulley Hiocks. Yale Lock Mfg. Co., 53 Chambers, N. Y. Dinner Pail and Lanterns. Halght Jos., Portenester, N. Y. Discount Tables. Leight Edwid, B. St. Louis Elevator, 84. Louis, Mo. 46 Door and Gate Springs. Dunne P. R., 18 Fulton, S. Dan Wagner & Williams, 85 Beekman, N. Y. 36 Pres Hobert B, New Haven, Ct. Drilling Machines, Makers of Mass. Sellers, Wm. & Co., Phila. and 75 Liderly st., N. Y. 35, Taft Geo. C., Worcester, Mass. 27 Thorne, De Haven & Co., Philadeiphia. 24 Wiley & Bussel Mfg. Co., Greenneld, Mass. 37 Prop Korglings. West Philadeiphia. 28 | Williamson James & Co., 50 Wall, N. Y. Iron Dealers. Abeel Brothers, 150 South, N. Y. Bonnell, Botsford & Co., Youngstown, O., Borden & Lovell, 70 and 71 West, N. Y. Carmichael W. J., 150 and 131 Cedar, N. Y. Cooney Daniel F., 58 Washington, N. Y. Egleston Bros. & Co., 165 South, N. Y. Flarrison & Gilloon, 158 to 82 Water, N. Y. Hoffman J. W. & Co., 268 S. Fourth, Philade, Judson B. F., 457 and 459 Water, N. P. Lundberg Gustaf, 38 Kilby, Boston, Mass. Middleton W. S., 52 John, N. Y. |
| Brilling Machines, Makers of. Boynton & Plummer, Worcester, Mass | Judson B. F., 457 and 459 Water, N. Y Kane C., Pittsburgh, Pa Lundberg Gustaf, 38 Kilby, Boston, Mass |
| Thorne, De Haven & Co., Philadelphia | Ogden & Wallace, 85, 87, 89 and 91 Elm, N. Y. Pierson & Co., 24 Broadway, N. Y Pullman J. Wesley, Philadelphia, P |
| Merrill C. & Sons, 556 Grand, N. Y | Quincy John W., 98 William, N. Y Richards D. W. & Co., 92 Mangin, N. Y Wallace Wm. H. & Co., Albany and Wash |
| Drop Presses. Beecher & Peck. New Haven, Conn | Kane C. Pittaburgh, Pa. Lundberg Gustaf, 28 Kilby, Boston, Mass. Middleton W. S., 53 John, N. Y. Ogden & Wallace S., 87, 89 and 91 Elm, N. Y. Plerson & Co., 24 Broadway, N. Y. Pullman J. Wesley, Philadelphia, P. Quincy John W., 68 William, N. Y. Richards D. W. & Co., 22 Mangin, N. Y. Wallace Wm. H. & Co., 41 Mangin, N. Y. Warner A. B. & Son, 26 and 20 West, N. Y. Williamson James & Co., 69 Wall, N. Y. |
| Doscner M., So Chambers, N. 1 Electric Machines. Weston Dynamo-Electric Machine Co., Newark, N. J. | Iron. (Manufacturers' Agents.) Cox, Jr., Justice & Co., 33 Walnut, Phila Hoffman J. W. & Co., 208 S. 4th, Phila |
| Brauns dorf J. E. & Co., Pearl River, N. Y. 36 Elevators, Makers of Chicago, Ill. 984 Stokes & Farrian, Philadelphia. 34 | iron, Manufacturers of. Albany & Rensselaer Iron & Steel Co., Troy Bradley, Reis & Co., New Castle, Pa. |
| Stoges & Parisa, Finiadospais. 34 Elevator Buckerts. 54 Elevator Buckerts. N. Y. 52 Emery and Emery Wheels. Y. 7. 28 Leving Valley Emery Wheel Co., Weissport, Pa 36 Lehigh Valley Emery Wheel Co., Weissport, Pa 36 | Britton Iron and Steel Co., Cleveland, Ohio, Burden Iron Works, Troy, N. Y. Condit, Wick & Co., Cleveland, Ohio. |
| Irvine A. A. & Co., 14 Murray, N. Y | Kirkpatrick Beale & Co., Pittsburgh Pa Kloman Andrew, Pittsburgh, Pa North Chicago Rolling Mill Co., Chicago, Ill. |
| Schleicher, Schumm & Co., Philadelphia35 Engines (Locomotive). Philadelphia Pa | Phoenix fron Co., 410 Walnut, Philadelphia , Portsmouth Iron and Steel Co., Portsmouth Roane Iron Co., Chattanooga. Tenn |
| Baldwin Locomotive Works, Philadelphia, Pa. 6 Burlines, Sigenm. Makers of. Lane & Bodlev Co., Cincinnati, O. 44 Lovegrove & Co., Philadelphia | Rowland James & Co., 920 N. Delaware ave., Rowland Wm. & Harvey. Philadelphia Shoenberger & Co., Pittsburgh. Pa |
| Shapley & Wells, Bingharaton, N. Y | Whitney A. R., of Hudson, N. Y. Iron. (Manufacturers' Agents: Cox. Jr., Justice & Co., 32 Walnut, Phila. Hoffman J. W. & Co., 33 & 4h, Phila. Levis Henry & Co., Philadelphia, Pa. Iron, Manufacturers of Co., Philadelphia, Pa. Iron Lon and Steel Co., Cleveland, Ohio. Burden Iron and Steel Co., Cleveland, Ohio. Burden Iron Works, Troy, N. Y. Condit, Wick & Co., Cleveland, Ohio. Houdlette & Ellis, Boston, Mass. Kirkpatrick, Beale & Co., Pittaburgh Pa. North Chicago Rolling Mill Co., Chicago, Ill. Pheenix Iron Co., da Walnut, Philadelphia, Portsmouth Iron and Steel Co., Portsmouth Roane Iron Co., Chattanooga, Tenn. Rome Merchant Iron Mills, Rome, N. Y. Rowland James & Co., gos N. Delaware ave., Rowland James & Co., gos N. Delaware ave., Rowland Wm. & Harvey, Philadelphia, Shoenberger & Co., Pittaburgh, Pa. Taylor & Boggift, Cleveland, O. Total Co., Pittaburgh, Pa. U. S. Iron and Tin Plate Co., Pittaburgh, Pa. Wood Alan & Co., 50 Arch Philadelphia, Zug & Co., Pittaburgh, Pa. |
| Equalizer Busses of Busses of Busses Brass, Makers of Busses Brass, Makers of McNab & Harlin Mig. Co., 56 John, N. Y. 33 Faucets. Wood Penfield Block Works, Lockport, N. Y. 34 | Wood Alan & Co., 510 Arch Philadelphia Zug & Co., Pittsburgh. Pa Fran, Planished Sheet. Manufacturers of Wood W. D. & Co. Pittsburgh, Pa |
| renneld Block Works, Lockport, N. Y | wood w. D. & Co. Philadurgh, Pa |

Axle

Pa.

huck.

0., THES, aives.

Conn.

| | 7 | Г |
|---|--|----|
| | Faucets, Self-Measuring, Makers of. Enterprise Mfg. Co., of Pa. Phile and W.W. | 1. |
| | Faucets, Self-Measuring, Makers of. Enterprise Mfg. Co., of Pa, Phila. and N. Y. 23 Lane Bros., Millbrook, N. Y. 21 Files, Importers of. 23 Carr J. & Riley, 83 John, N. Y. 28 Moss F. W. & John, N. Y. 28 | |
| | Moss F. W. 80 John, N. Y. 28 Files, Manufacturers of. Auburn File Works, 80 Chambers, N. Y. 8 Barnett G. 8 H. et and c. Bichmond Phile. 8 | |
| | Disston Henry & Sons, Phila 25 Draper C. T., Sing Sing, N. Y Everhart James M., Scranton, Pa. 36 | |
| | Moss F. W. 80 John, N. Y. Files, Manufacturers of. Auburn File Works, 80 Chambers, N. Y. 8 Barnett G. & H., 41 and 42 Richmond, Phila. 8 Disston Henry & Sons. Phila. 25 Draper C. T., Sing Sing, N. Y. Everhart James M., Scranton, Pa. 66 McCaffree & Roy, Commercial, Newark, N. J. 8 McCaffree & Roy, Commercial, Newark, N. J. 8 Nicholson File Co., Providence, R. I. 9 Paul Chas, B., Williamsburgh, N. Y. 8 Spencer J. R. & Son, Sheffield, Engiand. 10 Fire Arms. | |
| | Spencer J. R. & Son, Sheffield, England | |
| | Speacer J. R. & Son, Snemett, England 10 Fire Arms. Conway T. G., Go Chambers, N. Y 8 Fire Brick. Makers of. Borgner & O'Brien, Philadelphia, Pa 30 Brooklyn Clay Retort and Fire Brick Works, Van Dyke St., Brooklyn, N. Y 30 Gardner Brothers, Pittsburgh, Pa 30 Hall & Sons, Buffalo, N. Y 30 | |
| | Gardner Brothers, Pittsburgh, Pa. 30 Hall & Sons, Buffalo, N. Y 30 Kreischer B. & Sons, S Goerck, N. Y 30 | |
| | Maurer Henry, 418 East 23d, N. Y 2c Newton & Co., Albany, N. Y 30 Ostrander James & Son, Troy, N. Y 30 | |
| | Valentine M. D. & Bro., Woodbridge, N. J | |
| | Gardner Brothers, Pittsburgh, Pa. 30 Gardner Brothers, Pittsburgh, Pa. 30 Krelscher B. Boot, S. Gorck, N. 9. 30 Krelscher B. Boot, S. Gorck, N. 9. 30 Maurer Henry, 478 East 2nd, N. 9. 30 Ostrander James & Son, Troy, N. 9. 30 Ostrander James & Son, Troy, N. 9. 30 Perth Amboy Terra Cotta Co., Perth Amboy, N. J. 30 Valentine M. D. & Bro, Woodbridge, N. J. 30 Watson John R., Perth Amboy, N. J. 30 With and Kmery Paper and Cloth. Bacder, Adamson & Co., 730 Market, Phila. 10 Fluting Machines. Shepard Hardware Co., Buffalo, N. 9. 37 Forges, Portable, &C. Buffalo Forge Co., Buffalo, N. 9. 36 Empire Portable Forge Co., Cohoes, N. 9. 33 Keystone Portable Forge Co., 26 Carter, Phil. 34 Fossiliterous Orges. | |
| | Forges. Portable, &c. Buffalo Forge Co., Buffalo, N. Y | |
| | Accordance Force Co., 20 Carter, Fill 4 | 1 |
| | Paxson J. W. & Co., 514 Beech, Phila | |
| | N. Y. Stamping Co., 31 Avenue A, N. Y | |
| | Fry Fans, 17 W. 14th, N. Y. N. Y. Stamping Co., 11 Avenue A, N. Y. Farnaces, Makers of. Richmond & Potts, 110 S. 4th, Phila., Pa. Farniture Springs. Cary & Moen, 234 W. 39th, N. Y. Haigh J. Llovd, 81 John, N. Y. Galvanized Iren. Lefferts Marshall, 90 Beekman, N. Y. 4 | |
| | Lefferts Marshall, oc Beekman, N. Y | |
| | Comby I Lincoln Park W J | |
| | Judson Junius & Son, Rochester, N. Y | |
| | Pennsylvania Heating and Ventilating Works, | 1 |
| | Wood H. S. & Co., 23 West, N. Y | |
| | Finiadeipnia. Grindstones. Wood H. S. & Co., 33 West, N. Y. 28 Wood Walter R., 283 and 285 Front, N. Y. 29 Worthington & Sons, North Amherst, Ohio. 28 Gunpowder, Makers of, Kneeland F. L. (Dupont) 70 Wall, N. Y. 24 Laflin & Rand Fowder Co., 20 Murray, N. Y. 24 Handles. Makers of, | 1 |
| | Hartigan Wm. R., Burlington, Conn. 13 Hundley & Hanks, 70 Reade, N. Y. 22 Hardware Commission Merchants. | |
| | Fernald & Sise, 100 Chambers, N. Y. Graham & Haines, 113 Chambers, N. Y. Heaton & Denckla, 507 Commerce, Phila | |
| | Laffin & Hand Powder Co. 20 Murray, N. Y. 44 Handles, Makers of, Hartlgan Wm. R. Burlington, Conn. 13 Hundley & Hanks, 70 Reade, N. Y. 22 Hardware Commission Merchants. Fernald & Sise, 100 Chambers, N. Y. Graham & Haines, 113 Chambers, N. Y. Graham & Haines, 113 Chambers, N. Y. Heaton & Denckla, 507 Commerce, Phila. 13 Hundley & Hanks, 70 Reade, N. Y. 22 Samuel S. L., 47 Cedar, N. Y. 3 Tennis & Wilson, 82 Beckman, N. Y. 8 Walbridge G. B., 100 Chambers, N. Y. 22 Whitley John R. & Co., London and Parls. 10 Hardware Dealers. | |
| | Liovd, Supplied & Walton, 625 Market, Phila | |
| | Shepard Sidney & Co., Buffalo, N. Y. 27 Hardware Imperters. Boker Hermann & Co., 101 Duane, N. Y. 24 McCoy & Co., 124 and 136 Duane, N. Y. 24 Mardware Mapufacturers. Comly Jass., 4739 Paul st., Philadelphia. 10 Coulter, Flaxler & Co., 87 Chambers, N. Y. 17 Cowles Hardware Co., UnionVille, Conn. 36 Day, Farrington & Co., 295 Third ave., N. Y. 17 Enterprise Mfg. Co., Phila. 27 Enterprise Mfg. Co., Phila. 27 | |
| | McCoy & Co., 134 and 130 Duane, N. Y | |
| | Cowles Hardware Co. Unionville, Conn. 50 Day, Farrineton & Co., 295 Third ave. N. Y. 11 Enterprise Mfg. Co., Phila. 23 Greenfield Tool Co., Greenfield, Mass. 23 Greenfield Tool Co., Greenfield, Mass. 24 Lloyd, Supplee & Waiton, 25 Market St., Phila., Pa. 27 Miller's Falis Co., 74 Chambers. N. Y. 22 Payson Mfg. Co., 1210 W. Jackson, Chicago. 21 Phila. Novelty Mfg. Co. 81 Cherry Phila. 9 Shannon J. B. & Sons. 100 Market, Phila. 8 Starley Works. New Britain. Conn. 25 Stanley Works. New Britain. Conn. 25 Starley Works. New Britain. Conn. 27 Trenton Lock & Hardware Co. Trenton. N. J. 21 Union Mfg. Co., 29 Chambers. N. Y. 27 Van Wagoner & Williams, 32 Beekman, N. Y. 39 Hardware Specialities. | 1 |
| | Greenfield Tool Co., Greenfield, Mass | 1 |
| | Phila. Novelty Mfg. Co. 821 Cherry Phila. 9 Shannon J. B. & Sons, 1000 Market, Phila. 8 Shepard Hardware Co., Buffalo, N. V. 27 | 1 |
| | Stanley Works, New Britain, Conn. 8 Star Salt Caster Co., Boston. 22 Tiebout W. & J., 250 Pearl, N. Y. 30 | |
| | Trenton Lock & Hardware Co., Trenton, N. J | 1 |
| I | Van Wasoner & Williams, of Beckman, N. Y. 99 Hardware Specialities. American Machine Co., 1925 N. 4th. Phila. 8 American Tool Co., 116 Chambers, N. Y. 3 Shepard Sidney & Co., Buffalo, N. 7 3 Shepard Sidney & Co., Buffalo, N. Y. 5 Sprague Novelty Works, Rochester, N. Y. 11 Wecks A. A., 52 John, N. Y. 9 Wecks A. A., 52 John, N. Y. 9 Covert Mig. Co., West Troy, N. Y. 12 Hay K. nives. Holt Hiram & Co., East Wilton, Me. 13 Hinges. | 1 |
| 1 | Spencer & Underhill, 04 Chambers, N. Y. 8 Sprague Novelty Works, Rochester, N. Y. 21 Weeks A. A. 82 John, N. Y. 9 | 1 |
| 1 | Harness Snaps. Covert Mfg. Co., West Troy, N. Y | 1 |
| l | Hinges. Staniey Works, New Britain Conn | 1 |
| | Stanley Works, New Britain Conn. Hog Ringers. Chambers, Bering & Quinlan, Decatur, Ill | 1 |
| I | Hoisting Machines. Box Alfred & Co., 312 Green, Phila | 1 |
| I | Gellers Wm. & Co., Phila. and 79 Liberty st., N. Y. 35 Hollow Ware. Wells W. T., 76 Beekman, N. Y | 1 |
| | Hooks (Cotton & Baie.) New York Handle & Mallet Works, 456 E. Houston13 Horse Clippers. | |
| I | Boker, Hermann & Co., 101 & 102 Duane, N. Y. Harse Nails, Makers of, Ausable Horse Nail Co. 4 Warren, N. Y. Bridgewater, Mass. 6 Bridgewater, Mass. 9 Bruten Iron Works, Troy, N. Y. Brode Island Horse Shoe Co., Providence, R. I. 4 Housefurnishing Goods. 9 Bridgewater, Mass. 14 Housefurnishing Goods. 1 Bridgewater, Mass. 15 Bridgewater, Mass. 1 | 1 |
| | Printed Co., Cleveland, O | 1 |
| | Saranac Horse Nail Co., Plattsburg, N. Y | 1 |
| I | Rhode Island Horse Shoe Co., Providence, R. I | 1 |
| | Hydrauts, &c. McLean John, 30c Monroe, N. Y. McLean John, 30c Monroe, N. Y. Mchawk & Hudson Mfg. Co., Waterford, N. Y. 25 | |
| 1 | Hydraulic Jacks. Dudgeon Richard, 24 Cotumbia, N. Y | |
| 1 | White Mountain Freezer Co., Laconia, N. H 8 Ice Crespers. Childs, Groff & Co., Cleveland, Ohio | 1 |
| | Hartford Steam Boiler Inspection & Insurance Co 35 | |
| | Pon Brokers, Boynton Geo. A., 70 Wall, N. Y. 4 Etting Edward J., Philadelphia, Pa. 5 Hatry A. G., Pittsburgh, Pa. 5 Hatry A. G., Pittsburgh, Pa. 4 Iron, Charconi, Warm or Cold Blast, Quincy John W., 68 William N. 4 Iron Commission Microhams N. 4 Iron Commission Microhams 5 Bowes B. Chattanoga, Tenn. 5 Bows B. Chattanoga, Tenn. 5 Bichardson J. O., 23 Dock, Philadelphia 5 Kichardson J. O., 23 Dock, Philadelphia 5 Wister L. & R., 32 Walaut. Philadelphia 5 Iron, Pig., Importers of. 5 | |
| 1 | Iron, Charconi, Warm or Cold Biast, Quincy John W., 98 William N. Y | |
| | Balley J. F. & Co., 52 Wall, N. Y. 5 Lowe S. B., Chattanooga, Tenn. 5 Mohr J. J., 42 Walnut, Philadelphia 5 Richardson J. O. 222 Dock, Philadelphia 5 | |
| | Wister L. & R., 327 Wainut-Phila | 1 |
| 1 | Swan John E. & Bro., Glasgow, Scotland | 1 |
| ĺ | Abeel Brothers, 190 South, N. Y. Bonnell, Botsford & Co., Youngstown, O. Borden & Lovell, 70 and 71 West, N. Y. Carmichael W. J. 130 And 72 Cedar, N. V. | |
| I | Cooney Daniel F. 68 Washington, N Y. 4 Egleston Bros. & Co., 166 South, N. Y. 4 Harrison & Gilloon, 548 to 502 Water, N. Y. 4 | , |
| I | Hoffman J. W. & Co, 208 S. Fourth, Philadelphia. 5 Judson B. F., 457 and 459 Water, N. Y. Kane C., Pittsburgh, Pa. 4 Kane C., Pittsburgh, Pa. 4 | ١. |
| l | Middleton W. S., 52 John, N. Y. Ogden & Wallace, 85, 87, 89 and 91 Elm, N. Y. 4 Flerson & Co., 24 Broadway, N. Y. | 1 |
| i | Puilman J. Wesley, Philadeiphia, P | 1 |
| ĺ | wingamon sames & Co., 69 wai, 8, 8 Iron Bealers. Abeel Brothers, 100 South, N. Y. Bonnell, Botaford & Co., Youngstown, O. 4 Borden & Lovell, 70 and 71 West, N. Y. Carmichael W. J., 70 and 13 West, N. Y. 4 Carmichael W. J., 70 and 13 West, N. Y. 4 Egleston Bros. & Co., 106 South, N. Y. Harrison & Gillionn, 85 to 62 Water, N. Y. Hoffman J. W. & Co., 206 S. Fourth, Philadelphia, 5 Judson B. F., 457 and 459 Water, N. Y. Kane C., Pittsburgh, Pa. Lundberg Gustaf, 36 Kiby, Boston, Mass. Middleton W. S., 52 John, N. Y. Ogden & Wallace, 8, 67, 89 and 91 Elm, N. Y. 4 Pierson & Co., 28 Broadway, N. Y. Pullman J. Wesley, Philadelphia, P Quincy John W., 68 William, N. Y. 4 Richards, D. W. & Co., 62 Mangin, N. Y. Williamson, James & Co., 69 Wall, N. Y. 4 Williamson, James & Co., 69 Wall, N. Y. 4 Iron. Manufacturers' Apents. | , |
| | Whitney A. R., 58 Hudson, N. Y | 1 |
| | Iron. (Manufacturers' Agents.) Cox, Jr., Justice & Co., 25 S. 4th. Phila. 5 Hoffman J. W. & Co., 25 S. 4th. Phila. 5 Levis Henre & Co., Philadelphila, Pa. 5 Iron. Manufacturers of. | |
| | Albany & Rensselaer Iron & Steel Co., Troy N. Y28 Bradley, Reis & Co., New Castle, Pa | 8 |
| | Condit. Wick & Co., Cleveland, Ohio. 2 Houdlette & Eliis, Hoston, Mass. 4 Kirkpatrick. Beale & Co., Pittaburgh Pa | 2 |
| | Kloman Andrew, Pittsburgh, Pa | 1 |
| | Roane Iron Co., Chattanooga. Tenn | 2 |
| | Rowland Wm. & Harvey. Philadelphia | |
| 1 | The Passaic Rolling Mili Co., Paterson, N. J 4 Ulster Iron Works, co Broadway 4 U. S. Iron and Tin Piate Co., Pittsourgh, Pa | 9 |
| | COX, Jr., Justice & CO., 3cd & Ath, Phila. Hoffman, J. W. & CO., 3cd & Ath, Phila. Teon, Manufacturers of Cox, 3cd & Ath, Phila. Teon, Manufacturers of Cox, Science, Scien | 2 |
| 9 | | |

| 1 | HE IRON AGE | C |
|----------------|---|----|
| 23 | Jack Screws. Wynn R D. Windsor Vt. 20 | 1 |
| 21 | Jack Screws. 39 Wynn. R. D., Windsor, Vt. 39 Jacks. Lifting. 31 Dinsmore Mfg. Co., 23 Washington, Boston. 31 Lanterns. Manufacturers of. 36 Diets R. E. 5 4 4 5 DuBrui N. & Co., Cincinnati, O. 24 4 Lothes. 7 4 4 Lothes. 7 4 4 Co., Chiladelphia 6 Co. Philadelphia | 1 |
| 38 | Dietz R. E. 54 and 56 Fulton. N. Y | |
| 8 8 25 | Lathes. Johnson, Jr. Israel H. & Co., Philadelphia31 | |
| 36 8 | Johnson, Jr. Israel H. & Co., Philadelphia31 Leveling Instruments. Bicknell & Comstock, 27 Warren, N. Y Levels. | 1 |
| 2000 | Disston Henry & Sons., Philadelphia25 | 1 |
| 10 | Locks, Manufacturers of. Bohannan Wilson, Broodway and Kossuth, Brook- lyn, E. D. 10 Hillebrand & Wolf, 110 S. 8th, Philadelphia 9 Romer & Co., Newark, N. J. 3 Schroder Lock Co., Cincinnai, Obio. 10 Smith & Egge Mfg, Co., Bridgeport, Conn. 8 Yate Lock Mfg, Co., 53 Chambers, N. Y. 3 Lubricator. | 1 |
| 8 | Schroder Lock Co., Cincinnati, Ohio | 1 |
| 30 | Yale Lock Mfg. Co., 43 Chambers, N. Y | 1 |
| 30 30 | Lubricator Lubricator Longer Longer <th< td=""><td>1</td></th<> | 1 |
| 30 | Cooke Wm., 6 Cortlandt, N. Y | 1 |
| 10 10 10 | L. B. Flanders Machine Works, 1025 Hamilton. | 1 |
| 10 | L. B. Flanders Machine Works, 1028 Hamilton, Philg. Philg. C. & Co., Manchester, N. H. 16 Garvin, E. E. & Co., 129 Center, N. Y. 35 Monawk & Hudson Mfg. Co., Waterford, N. Y. 35 Prittsburgh Mfg. Co., Pittsburgh, Pa. 34 Pratt & Whitney Co., Hattbord, Conn. 34 Sellers Wm. & Co., Phila. and 79 Liberty st., N. Y. 35 The Stiles & Parker Press Co., Middletown, Ct. 35 Wetherill Robert & Co., Chester, Pa. 35 Watchinery (Barnes's Foot Power, Little Chas. E., 35 Fulton, N. Y. 10 Machine Screws, Makers of. | 1 |
| 37 | Pittsburgh Mfg. Co., Pittsburgh, Pa. 34 Pratt & Whitney Co., Hartford, Conn. 34 Sellers Wm. & Co., Phila, and 70 Liberty et N. V. 34 | 1 |
| 34 | The Stiles & Parker Press Co., Middletown, Ct35 Wetherill Robert & Co., Chester, Pa35 | ١. |
| 6 | Little Chas. E., 59 Fulton, N. Y | 1 |
| 4 | Hartford Machine Screw Co., Hartford, Conn 6 Fellows John, Williamsburg, N. Y | 1 |
| 5 | Little Chas. E., 59 Fulton, N. Y. Machine Screws, Makers of, Hartford Machine Screw Co., Hartford, Conn 6 Fellows John, Williamsburg, N. Y 52 Waterbury Mfg. Co., Waterbury, Conn 52 Waterbury Mfg. Co., Waterbury, Conn 55 Machinists' Tools. Blaisdell P. & Co., Worcester, Mass 34 Bullard, E. P., 14 bey, N. Y. Cooke Wm 6 Cortlandt, N. Y. Geo., Place Machinery Agency, 121 Chambers, N. Y. 16 Harrington E. & Son, 15th st. and Pennsylvania ave., Philadelphia, Pa 35 King J. M. & Co., Waterford, N. Y 57 Pennock Mfg. Co., Kennett Square, Pa 7 Sellers Wm. & Co., Phila. and 79 Liberty st., N. Y. 35 Malleable Iron Castings, Makers of, Malleable Iron Castings, Makers of, Malleable Iron Castings, Makers of, | |
| 3.2 | Cooke Wm. 6 Cortlandt, N. Y | |
| 4 | ave., Philadelphia, Pa | 1 |
| 10 | Sellers Wm. & Co., Kennett Square, Pa | |
| | Hammer & Co. Branford Conn | 1 |
| 15 | Mallets. 33 Mallets. N.Y. Handle and Mallet Works, 446 E. Houston13 Penfield Block Works, Lockport, N.Y. 25 Manganese, 25 | |
| 32 | Pyrolugito Mangangoo Co . Cliff W W | 1 |
| 8 8 | Mechanics' Tools. Jennings C. E. & Co., 98 Chambers, N. Y | 1 |
| 18 | Murray Iron Works, Burlington, Iowa | - |
| 13 | Dickerson, Van Dusen & Co., 29 and 31 Cliff. N. Y 2 Graves O. W. & Co., cor. Cliff and Beekman, N. Y. 4 Phelps, Dodge & Co., Cliff, bet, John & Fulton, N. Y. 2 Phosphor Bronze Smelting Co., 2038 Washington | |
| 32 | Phosphor Bronze Smelting Co., 2038 Washington sv., Phila | |
| 8 | Purves A. & Son, cor. South and Penn, Phila | ı |
| 38 | Phosphor Bronze Smelting Co., 2038 Washington s.v., Phila. 9.v., Phila. 9.v., Phila. 9.v., Swilliam, N. V. 10.v., Swilliam, N. V. 10.v., Seed, D. W. R. & Co., 2054 Wainut, Phila. 5. Sellew R. & Co., St. Louis, Mo. 5. Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Metal Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Mfg. Co., 413 E. 19th, N. Y. 10.v., Schoenberg Mfg. Co., 413 E. | |
| 16 | Starr John. Hallax, Nova Scotla. 7 Metaliurgists. 6 footb, Garrett & Blair, 910 Chant, Philadelphia. 5 Fritton J. Blodgett, 339 Walnut, Philadelphia. 5 Philadelphia Novelty Mg. Co., 821 Cherry, Phila. 9 Hingraf. Candles. | l |
| 27 | Mincing Knives. Philadelphia Novelty Mfg. Co., 821 Cherry, Phila. 9 | 1 |
| 24 | James Boyd's Sons, 10 and 12 Franklin, N. Y 6 | 1 |
| 10 | Molding Sand. Whitehead Bros. 517 W. 14th N. V. | ľ |
| 13 | Mouse Traps. Dietz R. E., 54 and 56 Fulton N. Y | |
| 22 | Ripley Mig. Co., Unionville, Conn. 8 | |
| 11 98 | Oxford Iron Co 8: Washington, N. Y. Rowland Jas. & Co., 220 N. Delaware, Ave., Phila. 5 Schoenberger & Co., Pittsburgh, Pa | |
| 7 | Zug & Co. Pittsburgh, Pa. 4 Nail Machinery. Fittsburgh Mr., Co., Pittsburgh, Pa. 34 Condit, Hanson & Van Winkle, Newark, N. J. 11 Zucker & Lovott, 6so and 6st W. 4set. N. V. 73 Nippers. | - |
| 12 | Nickei Pinters' Supplies. Condit, Hanson & Van Winkle, Newark, N. J | |
| 7 yo | Nippers. Nippers. New York | |
| 8 3 | Rowland Wm. & Harvey, Frankford, Philadelphia.36 Note Broker. | l |
| 8 11 | Rowland Wm. & Harrey, Frankford, Philadelphia.36 Note Broker, Gallaudet P. W., 3 and Kwil, N. Y. Nuts. Bolts, etc., Makers of, Allentown Rolling Mill Co., Allentown, Pa | |
| 9 | Haskell W. H. & Co., Pawtucket, R. I | |
| 13 | BOYG & Chase, with and Harlem River W W | |
| 8 7 | Ores. Chester Iron Co., 407 Walnut, Philadelphia. Read, D. W. R. & Co., 305/4 Walnut, Philadelphia. 9 Patent Solicitors. | |
| 4 | Patent Solicitors. Howson & Son. Phila. and Washington, D. C 8 Statson Thomas II Murray No | |
| 15 | Patent Solicitors, Howson & Son. Phila. and Washington, D. C. 8 Stetson Thomas D., 23 Murray, N. Y. 8 Tracy Geo. C. & Co., Cleveland, O, 23 Exterior Steel Pen Co., New York. 11 Placables Hronze. | |
| 15 | Phosphor Bronze Smelting Co. sees Washington | |
| 3 | Planes, Beatty Daniel F., Washington, N. J | l |
| | ave, Philadelphia. Planos. Beatty Daniel F., Washington, N. J | l |
| 6 | McNab & Hartin Mrg. Co., 45 John, N. Y. 33 Pancoast & Maule, 227 Fear, Philadelphia. 32 Pipe, Water and Gas. Makers of | 1 |
| 9 3 | McNeals & Archer, Burlington, N. J. 6 Wood R. D. & Co., 400 Chestnut, Philadelphia. 31 | li |
| 4 | Buck Bros., Millbury, Mass | |
| 4 | Pinted Ware, Hall, Elton & Co., 7s Chambers, N. Y | I |
| 13 | Bogers Wm. & Son Hartford. Ct | |
| 9 | Carr Wm. S. & Co., 106 Center, N. Y. Everhart Jas. M. Scranton, Ps. 33 | |
| | Pocket Knives. Boker Hermann & Co., 101 Duane, N. Y | l |
| 11 | Plows. Norwegian Pjow Co., Dubuque, Iowa | |
| 15 | Suadry Mig. Co., Buffalo, N. Y. Power Hammers, Forsath, S. C. & Co., Manchester, N. H | |
| 5 4 | Mohawk & Hudson Mr. Co Waterford, N. Y 25 Presses, Power, Makers or. | |
| 4 | Merriman A. H., West Meriden, Conn | |
| 5 5 | The Stiles & Parker Press Co., Middletown, Ct35 Pruners, Tree. Lee E. S. & Co., Rochester, N. Y | |
| 5 | Day 11 mars | |
| 4 | Brown A. & F., 57 Lewis, N. Y | I |
| 4 | Acid Pump & Siphon Co., New London, Conn | |
| 4 | Providence Tool Oo. Frovidence, R. I. 33 Pumps, Makers of, Frovidence, R. I. 33 Pumps, Makers of, Acid Fump & Slohon Co. New London, Conn. 97 Douglas W. & B. Middletown. Conn. 97 Gunnison A. B. Erle, Penn. 25 Rumsey & Co., Seneca Falls, N. Y. 7 Rumsey L. M. & Co., St. Louis, Mo. 32 Union Mig. Co., 86 Chambers, N. Y. 7 Rails. Iron and Steel. Makers of, Cambria Iron Co., Johnstown, Pa. 5 Cleveland Rolling Mill Co. Cleveland, Ohio. 28 Nixon Bros., Newcastle-on-Tyne, England. 16 Nixon Bros., Newcastle-on-Tyne, England. 16 Rice Eagar Thomson Steel Co., 97 Broadway, N. Y. 99 Rice Research Co., 197 Broadway, N. Y. 99 | I |
| 4 4 | Rails. Iron and Steel, Makers of. Cambria Iron Co., Johnstown, Pa. | I |
| 4 4 | Cleveland Rolling Mill Co. Cleveland, Ohio | I |
| 4 4 4 | Riveis. Glimor Wm., of Wm., Baltimore, Md. 36 Grundy Geo. C., 165 Greenwich, N. Y. 17 Townsend W. P. & Co. Pittsburgh, Pa. 13 | I |
| 4 5 4 | Townsend W. P. & Co. Pittsburgn, Pa | I |
| 6 | Rock Breskers. Blake Crusher Co., New Haven, Conn | |
| 4 4 4 4 | Garrison A. & Co., Pittsburgh, Pa | |
| 5 | Roll Grinding Machines. J. Morton Poole Co., Wilmington, Del | |
| 5 | Stanley Rule and Level Co., 39 Chambers, N. Y 10 Sad Irons. Chalfant Mfg. Co., 435 Arch, Philadelphia | |
| 8 4 6 | Enterprise Mfg. Co., Philadelphia | |
| 4 2 4 | Saws, Makers of. American Saw Co., Trenton, N. J | 1 |
| 4 4 9 | Disston Henry & Sons, Phila 36 Gerlach Peter & Co., Cleveland, Ohio. | |
| 95 40 | Wheeler, Madden & Clemsen Mfg. Co., Middle- town, N. Y | |
| 456 | Stanley Rule and Level Co., 29 Chambers, N. Y., 10 Shad Irena, Co., 435 Arch, Philadelphia. 6 Enterprise Mfg. Co., Philadelphia. 23 Sand and Emery Paper, Makers of. Radeer, Adamson & Co., 750 Market, Philadelphiato Saws, Makers of. Treaton, N. J. American Saw Co., Treaton, N. J. 35 American Saw Co., Treaton, N. J. 36 Gerlach Peter & Co., Cleveland, Ohio. 36 Gerlach Peter & Co., Cleveland, Ohio. 36 Wheeler, Madden & Clemsen Mfg. Co., Middle- town, N. Y. Saws, Seroll. Trump Bros. Machine Co., Wilmington, Del. 22 Scales. Manufacturers or. | |
| 4 | Howe Scale Co., Rutland, Vt | |
| 4 | Screws. Makers of. Miles F. S., 205 Quarry, Phila | |
| 4 | Klenle Bros., oth above Master, Phila | |
| 4 3 | Disston Henry & Sons, Phila | - |
| | | |

| Scythes. Beardslev Scythe Co., West Winsted, Conn | Tacks, American Tack Co., Fairhaven, Mass., Dunbar, Hobart & Whidden, 39 Warren, N. Y., Field A. & Sons, Taunton, Mass., Grundy Geo, C., 16c Greenwich N. Y., Shelton & Co., Birmingham, Ct. |
|--|---|
| Second Hand Machinery. Forsalth S. C. & Co., Manchester, N. H | Grundy Geo. C.: 165 Greenwich N Y Shelton & Co., Birmingham, Ct |
| Sellers Wm. & Co., Phila. and 79 Liberty st., N. Y35 | Tups and Dies. Carpenter J. M., Pawtucket. R. I |
| Benz Hardware Co., Bridgeport, Conn | Wiley & Russell Mfg. Co., Greekfield, Mass 27 Tin Plate, Importers of |
| Shears (Sheep), Field Alfred & Co., 93 Chambers, N. Y | Tin Plate, Manufacturers or. Monitor Tin Plate Works, 54 Cliff, N. Y. |
| Shot, &c. Sparks Thos. W., 121 Walnut, Philadelphia | Wiley & Russeil Mfg. Co., Greekfield, Mass. 2: Tin Plate, Importers of N. & G. Taylor Co. Philadelphia. Tin Plate, Manufacturers or. Monitor Tin Plate Works, 54 Cliff, N. Y. U. S. Iron and Tin Plate Co., Pittsburgh, Pa Tin Ware, Stamued and Japanned Block David, 69 Bayard, N. Y. Shepard Sidney & Co., Buffalo, N. Y. Zissue Paper, Anti-Tarnish Silver. Butter, Jr., H. V. & Co., 34 Reade, N. Y. Toe Calks. Ives, Woodruff & Co., Mount Carmel, Conn. Tools, Railroad and Mining. Meteatf, Paul & Co., Pittsburgh, Pa. |
| Shutters, Steel and Wood, | Shepard Sidney & Co., Buffalo, N. Y |
| Smelting Works. Philadelphia Smelting Co., 12th and Noble sts., Philadelphia | Toe Calks. Ives, Woodruff & Co., Mount Carmel, Conn3 |
| Philadelphia. 29 Reeves Paul S., 760 South Broad, Phila. 36 Snaths. | Metcaif, Paul & Co., Pittsburgh, Pa Trowels. |
| Vermont Snath Co., Springfield, Vt | Bruce Geo. W., r Platt. New York |
| Ostrander W. R., 19 Ann. N. Y | Tube Expanders. Dudgeon Richard. 24 Columbia, N. Y |
| Speiter. Manning & Squier, 113 Liberty, N. Y. 2 Osgood F. & Co., Bergen Port, N. J. 25 Spiegeleisen. | Tobing |
| Wright Peter & Sons, 52 Broadway, N. Y. | Merchant & Co., sor Market, Phila |
| Specons. Rogers Wm. & Son., Hartford, Ct | Uphoisterers' Goods. Turner & Seymour Mfg. Co. 81 Reade, N. Y 2 |
| Springs. Cary & Moen, 234 W. 29th, N. Y. Gautier Steel Co., Ld., Johnstown. Pa | Uphoisterers Goods. Turner & Seymour Mfz. Co. 81 Reade, N. Y. 2 Valves. Gas. Water and Steam. Consolidated Safety Valve Co. Boston, Mass. ULudlow Valve Mfg. Co., Troy, N. V. 3-4 Mohawk & Hudson Mfg. Co., Waterford, N. Y. 20 |
| Steam Hollers. Babcock & Wilcox, 30 Cortlandt. N. Y | |
| Dudgeon Richard, 24 Columbia, N. Y | Berry Brothers, Detroit, Mich |
| Rowland Wm. & Harvey, Frankford, Phila | Vises. Millers Falls Co., 74 Chambers, N. Y. Water Wheels. West Reading Pipe and Mach. Works, Reading, Pa.3. |
| Brooklyn, N. Y | Water Wheels, Water Wheels, West Reading Plpe and Mach. Works, Reading, Pa.3. Wheels, Railroad. Whitney A. & Sons, Philadelphia. |
| McGowan John H. & Co., Cincinnati, O | White Lead. Brooklyn White Lead Co., 89 Malden Lane N. Y . 30 |
| The Norwalk Iron Works Co., So. Norwalk, Ct3 | White Lead Co., 85 Maiden Lane N. Y. 35 Colgare Robert & Co., 287 Pearl, N. Y. 35 Jewett John & Sons, 48 Front, N. Y. 35 Lewis John T. & Bros., 23 S. Front, Phila., Ps. 35 Lewis John T. & Bros., 23 S. Front, Phila., Ps. 35 Lewis John T. & Bros., 23 S. Front, Phila., Ps. 35 S. |
| Steel Castings, Manufacturers of. Chester Steel Castings Co., Evelina, Phila., Pa36 Euroka Cast Steel Co., Chester, Pa. | Window Balances. Hugunin Robt. B., Wethersfield, Conn22 |
| Chester Steel Castings Co., Evelina, Phila., Pa | Window Springs, Makers of. |
| Pittsburgh Steel Casting Co., Pittsburgh, Pa | Hammond W. S., Lewisberry, Pa. Wire, Manufacturers of. Cary & Moen, 24 W. 20th, N. Y. Cleveland Rolling Mill Co., Cleveland, Ohio. 23 Gautier Steel Co., Ld., Johnstown, Pa. 28 36 Gilbert & Bennett Mg. Co., 23 Pearl, N. Y. Griswold J. Wool, Troy, N. Y. Haigh J. Lloyd, 8 John, N. Y. Harrison Wire Co., St. Louls, Mo. Howard & Morse, 45 Fulton, N. Y. Prentiss Geo. W. & Co., Holyoke, Mass Trenton Iron Co., Trenton, N. J. Washburn & Moen Mfg. Co., Worcester, Mass. Wire Brawing Machinery. Adt John, New Haven, Ct. Wire Goods, Manufacturers of. |
| McCoy & Co., 134 and 136 Duane, N. Y | Gautier Steel Co., Ld., Johnstown, Pa 28.3 |
| Pierson & Co., 24 Broadway, N. Y | Griswold J. Wool, Troy, N. Y. |
| Steel (Mushet's Special.) Randall & Jones, 10 Oliver, Boston, Mass | Harrison Wire Co., St. Louis, Mo |
| Steel Manufacturers. Albany & Rensselaer Iron & Steel Co., Troy, N. Y 28 | Prentiss Geo. W. & Co., Holyoke, Mass Trenton Iron Co., Trenton, N. J |
| Cleveland Rolling Mill Co., Cleveland, O | Wire Drawing Machinery. |
| Gautier Steel Co., Ld., Johnstown, Pa. 2&28 Midvale Steel Works, Nicetown, Phila., Pa. 6 | Wire Goods, Manufacturers of. Dufur & Co., 26 N. Howard st., Baltimore, Md Gilbert & Bennett Mfg. Co., 273 Pearl, N. Y. Oliver E., 126 and 108 Beekman st., N. Y |
| Miller, Metcalf & Parkin, Pittsburgh | Gilbert & Bennett Mfg. Co. 273 Pearl, N. Y |
| Randali & Jones, is Oliver, Boston, Mass. 28 Albany & Rensecler Iron & Steel Co., Troy, N. V., 28 Albany & Rensecler Iron & Steel Co., Troy, N. V., 28 Albany & Rensecler Iron & Steel Co., Troy, N. V., 28 Albany & Rensecler Iron & Steel Co., Troy, N. V., 28 Albany & Rensecler Iron & Steel Co., Troy, N. V., 28 Albany & Rensecler Iron & Steel Co., 26 Gautier Steel Co., 20, Cleveland, Ohio., 28 Gautier Steel Co., Ld., Johnstown, Pa., 28 Gautier Steel Co., Ld., Johnstown, Pa., 28 Gautier Steel Co., Ld., Johnstown, Phila, Pa., 28 Midvale Steel Works, Nicetown, Phila, Pa., 28 Fennsylvania Steel Co., 26 Squary Frankford, Phila, 36 Sanderson Geo. & Co., 20 Gold, N. Y., 28 Smith, Sutton & Co., Pittsburgh, Pa., 28 Singer, Nimick & Co., Pittsburgh, Pa., 26 Spencer J. R. & Son. Sheffled, England. 10 Standard Steel Works, Philadelphia, Pa., N. Y., 29 The Steel Co., of Scotland, 72 Pine, N. Y., 29 Wardlow S. & C., Sheffleld, England. 28 Steeline. | Oliver E. 10 and 10s Deckman St. 3. Mirr Nails. American Wire Nail Co. Covington Ky 3. Dunbar, Hobart & Whidden 39 Warren, N. Y. Field A. & Sons, Taunton, Mass. HP. Nail Co., Cleveland, Ohlo. Wire Rope, Iron and Steel, Makers of. Broderick & Bascom, St. Louis, Mo Haigh J. Loyd, 81 John, N. Y. Hazard Mfg. Co., Wilkesbarre, Pa Roebling's John A. Sons, Trenton, N. J. |
| Singer, Nimick & Co., Pittsburgh, Pa. 6 Spencer J. R. & Son, Sheffled, England 10 | Dunbar, Hobart & Whidden 39 Warren, N. Y Field A. & Sons, Taunton, Mass |
| Standard Steel Works, Philadelphia, Pa | Wire Rope, Iron and Steel, Makers of. |
| The Steel Co. of Scotland, 72 Pine, N. Y | Haigh J. Loyd, 81 John, N. Y. |
| Bauer & Co., 96 Greenweh ave., N. Y | Roebling's John A. Sons, Trenton, N. J. |
| Steeling Co., of Greenweh ave., N. Y | Bemis & Call Hdw. & Tool Co., Springfield, Mass. 25& 2 Coes A. G. & Co., Worcester, Mass |
| Stocks and Dies. Armstrong F., Bridgeport, Ct | Wrenches, Manufacturers of. Bemis & Call Hdw. & Tool Co., Springfield, Mass. 25 & 2 Coes A. G. & Co., Worcester, Mass. Coes I. & Co., Worcester, Mass. Girard Wrench Mg. Co., Girard, Pa. Van Wagoner & Williams, 83 Beekman, N. Y. Wood Working Machinery. Fornaith, S. C. & Co., Manchester, N. H. |
| Molroyd & Co., Waterford, N. Y. 32 Wiley & Russell Mfg. Co. Greenfield, Mass. 27 Stove Boards, Manufacturers of. | Van Wagoner & Williams, 82 Beekman, N. Y3 Wood Working Machinery. |
| Adams & Westlake Mfg. Co., Chicago | Wringers. Alexander T. J., Boston, Mass. |
| Shepard Sidney & Co., Buffalo, N. Y | Metropolitan Washing Machine Co., 52 Cortiandt, N. Y. |
| Tucker Alarm Till Mfg. Co., Indianapolis, Ind 10 | Peerless Wringer Co., Cincinnati, O |
| Chatillon John & Sons, or and c3 Cliff, N. Y | Wringers, Alexander T. J., Boston, Mass Metropolitan Washing Machine Co., 52 Cortiands N. Y Peerless Wringer Co., Cincinnati, O |

ZUCKEK & LEVELI, NICKEL PLATERS' SUPPLIES.

Estimates for Complete Outfits Furnished. 639 & 641 West 51st Street, New York.

ENTERPRISE Mfg. CO. of PA.

PATENTED HARDWARE MANUFACTURERS & IRON FOUNDERS,

THIRD and DAUPHIN Sts., PHILADELPHIA.

New York Branch House with



PATENT MEASURING FAUCETS, SELF-WEIGHING CHEESE KNIVES,

SPECIALTIES.

Enterprise Patent Cold Handle Double Pointed
SMOOTHING & POLISHING IRONS
CHAMPION TOBACCO CUTTERS,
PATENT MEASURING FAUCETS.
PATENT MEASURING FAUCETS.
PRUIT, LARD and jELLY PRESSES,
FRUIT, LARD and jELLY PRESSES, CHAMPION DRIED BEEF SHAVERS, Coffee Ronsters, Bung-Hole Borers, &c., &c.



EMPIRE FORGES IMPROVED without Belts, Bellows, Crank Pins, Dead Certer of Back Motion. Send for circular. EMPIRE PORTABLE FORGE CO. LCOHOES, N.

NEW YORK WHOLESALE PRICES, DECEMBER 17, 1879.

| | WE | ETA. | T.Q | | W | GERMAN | SILVER TUB |
|--|--|--|--|---|--|--|--|
| IDAY | | | | heat Ban | - 11 | cent | ····· |
| Hoop of the per c Wrou Railr | and Scroll, 13 above Iron si ent. Pig. 97 ght Scrap, \$8 and 70c. 9 and | to 196c. Whi hall pay a le w ton; Pol w ton; Ca bs. Boiler s | ; provided as rate of d ished She ast Scrap, and Plate. | heet, Ban l, that non luty than; et, 3c. # 11 ho per ton luc. # 11. | 0, 20 4 | ********* | |
| Pig ir | on-Americal iry No. 1 | Nominal. | # ton # | 30.00 @ | | d at 7 cents s, and not abo | & b., or und |
| Gray | on-AMERICAL Iry No. 1 No. 2 Forge. | BCOTCH. | ton | 28.00 @ | Rail | ed at 7 cents s, and not abo , and to % ad way Bars, in Metal cement emer or pneur ription, shall | part Steel, ted, cast or |
| Coltn | ton ess. arnock herrie | | W ton | 24.50 (8 25.0 28.00 (8 24.50 (6 | | Ame | rican fina |
| 88-44- | | | | | Region | reneous | ******** *** |
| Steel. Old R | dis | | ton | 15,00 € 70,0 12,50 € 35.0 | Boiler | Plate | |
| Wrou. | ght Scrap, fro | | | 6 35.0 | o File | | ********** |
| Commo | n Iron: in. round and in.x% to 1 in | ren, frem ! l square | | | Engite | ate, mill and gang and b Steel.— Best Cast. Extra Cast | X cut |
| Refined | n.x% to : in Iron : in. round and | square | | lance | 60 | Extra Cast Round Ma | chinery, Ca |
| rto 6 i | in. x3% to 1 in in. round and n.x36 to 1 in in.x34 and 5-16 6 and 11-10 rou 1 to 6x3-16 to Nail Rods. | nd and squ | are | P 3 34 | 0 4 | Best Doub Blister, 1st | astle Shear |
| E. C | | | | | c Germa | n Steel, Best. | ality |
| | o 20 | Comm | on | R. G. | Sheet C | Extra Cas Round Ma Swaged, C Best Doub Blister, 1si n Steel, Best. " 2d qu " 3dqu Cast Steel, 1st | qualityqualityquality |
| Nos. 10 8 | 0 20 | # D 5 | %(n 0 | 596 | ANTI | MONY | ********* |
| 27. 36. | | # D 5 | 140 140 | 636 | Americ | and Sheet, 234 | |
| 61 | 21 to 24 ° 25 to 26 ° | | # B | Less 1/2 | Pipe Tin Lin | ed Pipe | |
| Patent I | lanished | | ¥ D A. | 110 ; B, 100 | Shot Chilled | Comparison | |
| America | n Cold Rolle | 1 | To, 140 ; 11 | # 14, 13560 # D 6@6560 | N. P. U | B. 160 : C. 1 | ABBITT MET. |
| per 40 which | B: Wanufs Copper is a co | ctured (incomponent of | inding all | article of | TIN. | DUTY: Plates ecro-galvanis t enumerated igs free. Bar | , Sheets, Ta ed Plates, 2 |
| | | | | | | | |
| Braziera ft., and | m Ingot | inary sizes, | reor. per s | q. 300 | Straits. English | | |
| Braziers Braziers | og., waq. ft. Copper 10 0 | and 12 Os., | # sq. ft | # B 340 | I C 10XI | Prime Cha | rooal |
| Oircles le | es than % is. in. dismeter | in diameter | on. w sq. n | W 10 330 | I C 12X1 | Cha | rceal |
| Segment Locumot Sheathir | and Pattern | Sheets Sheets | . ft. | W B 330 | D C 12/6 | X17 | * ******** |
| Bolt Cor Copper | per Bottoms per is Sheath d 34 oz. to the | ing except r | ar a Inche | # B 300 | For ea | ch additiona | EE TIN PLAT |
| to excee | d 34 or to the | sq. It. | | | I C 10XI | B | est. 2d.: 7.75 |
| All oth | er size Sheets ning both sid refill' spare R | , 2) éc. per so ce, double te | uare foot. e above a | mount | I C 12X1 | 1 | THESE PLAYS |
| 14 and 16 | oz. and heavi i lighter | LAKAL Br., 2 B 370 | By the cas | Ves. we. ₩ 15 360 | I C 1482 | Prime Cha | r. 2d q 7.25 @ |
| 12 OS. AB | i lighter | Holler Sizes. | o in version | . P 10 390 | I C 20X2 | 6 | 00 15,00 66 1 |
| 14 and 16 | 7 in., 14852. Oz. and heavi (And all size | er. # % 390 s not over a | By the case in. wide. | e. P B 38c | | M. F. Brand | NO. I. |
| | os, and heavi | an June see | | 30 B 410 | SPELT | PER-DUTY: | in Pigs, P |
| | | EXPO.OR. | | | Bergen | Port from Le on spot | hign Ore |
| BILL | Sharp's Gauge Ingitish Gauge SE HANUFACTO | mens' PRICE | LET.—dis Dec. | e. 10%. 18, 1878. | ZINC 2140 W Sheet, C | b. | or Block, |
| tity than | ices for Roll o | TOTT BRASS. | | | 5 O | Den | ******* |
| All Nos. 1 not wid All Nos. 1 | ot thinner the er than 14 in. | an to No. of | wider tha | n z in., | | Paper | Stock |
| an in., is | o No. 28, incl actusive advance on ea | usive, and v | widths ove | r so to | Canvas | | r's Selling I |
| ciusive. | dvance on ea | sh No. abov | e Nos. 28 to | 38, in- | White co | otton, new | |
| Sheets 24: | thinner than 148, and all sl ths under 30 Rules. | neets cut to | particular the | rsizes | Seconds | nen rags, No. | 2 |
| | | | | m 2 m.370 | | | |
| Printers' Sheets wi | Rulesder than 30 in | and under | 40 in | 450 476 400 | Mixed w | oolens | |
| Printers' Shoets wi | Rulesder than 30 in 40 in Sheets, in diam | m. from 4 in over 14 | 40 into 14, inci | Maive.400 | Mixed w | oolens | pa |
| Circular | Sheets, in diam | and over m. from 4 in over 14 20 30 40 in | to 14, inci | 1 .450 .450 .450 | Mixed w Soft woo Gunny b Jute But Kentuck Waste po Rope cut | oolens | p# |
| Circular | Sheets, in diam | and over m. from 4 in over 14 20 30 40 in ow mann. more than | to 14, inci | 1 .450 .450 .450 | Mixed w Soft woo Gunny b Jute But Kentuck Waste po Rope cut | oolens | pa. No. 1 |
| Circular : | more than Hi Metal, Sc V b | and over m. from 4 in over 14 20 30 40 in ow HRAM. th Brass., more than { In Bars Sawed f Planed or | to 14, inci | ### ################################## | Mixed w Soft woo Gunny b Jute But Kentuck Waste p Rope cut Kentuck Grass roj Tarred s Hard Wh Soft " | oolens. blens. agging. ts. y bagging. aper and scra tings. y baie rope. pe haking. hite Shavings, | No. 1 No. 1 |
| Circular Circular Gilding Platers' O | nore than His Metal, Sc # B | and over. m. from 4 in over 14 20 39 4 in own shass, th Brass, more than (In Bars Sawed Planed or R SLITTING. | to 14, inci 20, 30, 40, High Brass | ### ################################## | Mixed w Soft woo Gunny b Jute But Kentuck Waste p Rope cut Kentuck Grass roj Tarred s Hard Wh Soft " | oolens. blens. b | No. 1 No. 1 |
| Circular Circular Gilding Piaters' O Metal in a dva Metal, in | more than Hi Metal, So W B Gold Metal Vidth 2 in to noce. | and over. m. from 4 in over 14 20 39 40 in ow shass, th Brass, more than (In Bars Sawed (Planed or R SLITTING.) 1/4 in. to No. in., thinnes | High Brass Polished 28, inclusive than No | ### ################################## | Mixed w Soft woo Gunny b Jute But Kentuck Waste p Rope cui Kentuck Grass ro Tarred s Hard Wi White Sh Mixed Sh Imperfer Book Sto | ociens lens sagsing. Its y bagging. aper and scra tings. y bale rope pe haking. hite Shavings, havings, part ttions, No. 2, t ck. Heavy Light | No. 1 No. 1 |
| Circular de Factoria de Factor | more than His Metal, Sc ¥ B r Gold Metal rin to a rotate rin to width z in to a rotate rin to | and over. from 4 in over 14 | to 14, inci 20, 20, 20, 20, 40, High Brass Polished 28, inclusi r than No. 2 e, not thin | ### ################################## | Mixed woo Gunny by Soft woo Gunny by Jute But Kentuck Waste ph Rope cui Kentuck Grass roj Tarred s. Hard Wisoft White Si Mixed Si Imperfection Soft "Book Sto "Rowspap Prints Pure Man Bogus Me | oolens lens agging ts agging ts y bagging aper and scra tings y bale rope pe haking havings, No. 2; tok No. 1; k Heavy Light | No. 1. No. 1. white. est folded a leavy Stock |
| Circular : 4c F B : Gilding Piaters' o Metal in : B advane Metal, in : Advance Metal, in : | more than His more than His metal, So W B r Gold Metal width 2 in. to noe. width 1 in. to | and over. In from 4 in over 14 20 40 in over 14 20 40 in over 14 20 40 in over 14 20 20 40 in over 14 20 20 20 20 20 20 20 20 20 2 | High Brass Polished 28, inclusive than No. 26, not thin than No. | ************************************** | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope cui Kentuck Grass roj Tarred Si Hard Wi Soft "White Si Mixed Si Imperfec "Book Sto" " Newspap Prints "" Newspap Prints "" Newspap Bogus Mg Common Binders" | colens clean colens clean colens cagging to the colens cagging. The colens cagging cag | No. 1 |
| Circular in Circular in Gilding Piaters' o Gilding Piaters' o Metal in Sadvas Metal, in Sadvas Metal, in Sadvas Sadvas Metal, in Sadvas Sadvas Metal, in Sadvas Sadvas Alexan, in Sadvas Alexan, in Sadvas Sa | Bheets, in dia Bheets, in dia | and over Trom 4 in over 1.00 " | High Brass Polished | Walve Joo Walve | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope cui Kentuck Grass roj Tarred Si Hard Wi Soft "White Si Mixed Si Imperfec "Book Sto" " Newspap Prints "" Newspap Prints "" Newspap Bogus Mg Common Binders" | oolens lens agging ts y bagging aper and scra tings y bale rope pe haking havings, No. 2, t tons, No. 2, t Heavy Light Heavy L | No. 1 |
| Circular ! 4c F B : Gilding Piaters' o Metal in v B advar Metal, in ad | more than His more than His Metal, So W B r Gold Metal width 2 in. to noe. width 1 in. to | mand over 14 | High Brass Polished | 100 Miller | Mixed w Soft woo Gunny b Jute But Kentuck Waste p Rope cut Kentuck Grass For Tarred S Hard W Soft White SI Imperfec Book Sto White SI Imperfec Soft William Soft Soft Soft Soft Soft Soft Soft Soft | colers lens agging ts y bagging y bagging ting y bagging ting y bale rope be hashig ha | No. 1 |
| Circular ! 4c F B : Gilding Piaters' o Metal in v B advar Metal, in ad | Bheets, in dia Bheets, in dia | mand over 14 | High Brass Polished 28, inclusi r than No. 26, no thin than No. P b advan loular lengal LAND WIR Ket Meta | 100 | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope coi Kontuck Orass roll of the Waste p Rope coi Kontuck Orass roll of the White Si Mixed Si M | oolens lens agging tis y bagging y bagging y bagging y bale rope po has ing ha | No. 1 |
| Circular " 4c F B 1 Gilding Piaters' o Metal in v B advan Motal, in B advan Metal, in B advan Metal, in B advan Metal, in C B advan Metal, in C B advan pro e b c C B advan p | more than His more than His more than His Metal, So W B r Gold Metal width 2 in. to noe. width 1 in. to t | mind over 14 from a in over 14 20 30 40 in ow shass, more than in Bars. Sawed. Planed or stitting fin to No. in, thinner thin to No. in, thinner dies, 100. a cut to part a cut to part stitting No. 26. | High Brass High Brass Polished | 100 | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope coi Kontuck Orass roll of the Waste p Rope coi Kontuck Orass roll of the White Si Mixed Si M | oolens lens agging tis y bagging y bagging y bagging y bale rope po has ing ha | No. 1 |
| Circular: 4c F B: Gilding Piaters' o Metal in v B advan Motal, in: B advan Metal, in: B advan Metal, in: B advan G G G G G G G G G G G G G G G | more than His more than His more than His Metal, So W B r Gold Metal width z in. to noe. width z in. to noe. width z in. to noe. width i in. to width i in. to width j in. to shove width shove wid | mind over 14 m. from a in over 15 m. from a in over 15 m. from a in Bars Sawed. framed or m siltting. fin to No. in., thinner a in over 15 m., thinner a in over 15 m. from a cut to part with a c | to 14, Inci " 30, " 30, " 40, " 40, " High Brass Polished, 28, inclusi r than No. 26, not thin than No. 28 than No. 29 than No. 20 than | | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope coi Kontuck Orass 10 Mixed St | oolens lens agging tis sy bagging y bagging y bagging y bagging y bagging y bagging hit begging y bagging y bagging y bagging y bagging y bagging y bagging hit begging y bagging y baggin | No. 1. No |
| Circular : 4c F B : Gilding Platers o Metal in v B advan Metal, in c B advan G G G G G G G G G G G G G G G G G G G | more than His more than His more than His Metal, So F B r Gold Metal width 2 in. to noe. width 2 in. to noe. width 3 in. to noe. width 3 in. to width 3 in. to width 3 in. to width 3 in. to width 4 in. to width 4 in. to width 5 in. to above width saman silvers 3 to 100 to 200 | more than the second of the se | High Brass High Brass Polished | | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope cot Romer Comment of the C | polens lens agging tis sagging tis y bagging y bagging y bagging y bagging y bale rope haking hite Shavings, havings, No. 2, b tions, No. 2, b ck Heavy Light Light Paint mp, Coach Pa Ordinary ory Drop, fair in, to eless lens, fair to best het, in oil. | No. 1. No |
| Circular : 4c F B : Gilding Fiaters' o Metal in v a advan Metal, in n advan in and in | more than His Metal, So F B r Gold Metal Fo width 2 in. to once. Width 1 in. to once. Width 1 in. to midth 1 in. to width 1 in. to midth 1 in. to come width 1 in. to come with 1 in. to come width 1 in. to come with 1 in. to come width 1 in. to come width 1 in. to come with 1 in. to come width 1 in. to come wid | m. from in over 14 20 20 20 20 20 20 20 20 20 20 20 20 20 | High Brass Polished. 28, inclusive than No. 28, not thin than No. 28, not thin than No. 29 B advanteuist length of the than No. 26, not the than No. 26, is Pkt than net | Wre. 10. Wre | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope coi Kontuck Grass roll of the Soft | polens lens agging tis sagging tis y bagging y bagging y bagging y bagging ting y bale rope ting ting ting ting ting ting ting ting | No. 1. No |
| Circular: 4c F B: Gilding Piaters' o Metal in v B advan Motal, in B advan Metal, in C B B B B B B B B B B B B B B B B B B | more than His more than His more than His Metal, So W B r Gold Metal width 2 in. to noe. width 1 in. to width 2 in. to width 2 in. to a box width 1 in. to width 2 in. to a box width 1 in. to width 2 in. to a box width 3 | and over 14 from 4 in from 5 in from 6 in | High Brass Polished. 28, inclusive than No. 28, not thin than No. 28, not thin than No. 29 B advanteuist length of the than No. 26, not the than No. 26, is Pkt than net | Wre. to work the state of the s | Mixed w Soft woo Gunny b Jute But Kentuck Waste p Rope cal kentuck Wast | poolers least agging table aggi | No. 1. No |
| Circular : 4c F B: Gilding Piaters' o Metal in v B advan Motal, in a German more than "Advance in, and d inclusif All German in, and d inclusif All German in, and The comman in, and Motal in v Motal i | more than His Metal, So W B r Gold Metal width 2 in. to note width 1 in. to width | and over 14 from 4 in from 5 in from 6 in | High Brass High Brass High Brass Polished. 28, inclusir than No. 26, not thin than No. 27 6, not thin than No. 27 6, not thin than No. 27 6, inclusir length of the thin No. 27 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, | Wre. 48. 48. 48. 48. 48. 48. 48. 49. 49 | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope cot Grass co Tarred s Hard W! Soft " White Bi Mixed si Imperfec Book Sto " " " Newspap Prints Pure Man Bogus Mc Common Binders' Straw Bo Woolen 1 Satinet Black Lai " " " " Black Lai " " " " " " " " " " " " " " " " " " " | polens lens agging tis sagging tis sagging tis y bagging y bagging y bagging y bagging ting y bale rope haking haking hite Shavings, No. 2, 1 tons, No. 1. E ck Heavy Light Heavy Light Paint mp, Coach Pa " Ordinary ory Drop, fair int, in oll seisan, fair to nose dry ramarine panish an Dyke 40. harine in oil aris | No. 1. No |
| Circular Cir | more than His Metal, So W B r Gold Metal So W | and over 14 from 4 in over 14 20 30 40 in the Brass 40 in the Brass 5a wed 17 18 and 18 18 in the Brass 5a wed 18 18 in the Brass 18 1 | High Brass High Brass Folished. 28, inclusive than No. 26, not thin than No. 27, 12, 12, 12, 12, 12, 12, 12, 12, 12, 12 | | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope cot Grass co Tarred s Hard W! Soft " White Bi Mixed si Imperfec Book Sto " " " Newspap Prints Pure Man Bogus Mc Common Binders' Straw Bo Woolen 1 Satinet Black Lai " " " " Black Lai " " " " " " " " " " " " " " " " " " " | polens lens agging tis sagging tis y bagging ting y bagging haking hite Shavings, havings, No. 2, to toon, No. 1, E ck. Heavy Light Light Paint Manage Ma | No. 1. No. 1. White leavy Stock feavy Stock Falmans. S, Oils Paints. inters. Logs Log |
| Circular Cir | more than His more than His more than His Metal, So W B r Gold Metal vidth 2 in. to noe. width 2 in. to noe. width 1 in. to width 2 in. to above width sama salver 2 t., rs inch, to """ sallver Seeap a an Silver thi ditional. Silver Seeap a in the uri sallver Seeap an in the uri | and over 14 from 4 in over 14 20 30 40 in the Brass 40 in the Brass 5a wed 17 18 and 18 18 in the Brass 5a wed 18 18 in the Brass 18 1 | High Brass Polished 28, inclusive than No. 29, inclusive than N | | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope cot Grass co Tarred s Hard W! Soft " White Bi Mixed si Imperfec Book Sto " " " Newspap Prints Pure Man Bogus Mc Common Binders' Straw Bo Woolen 1 Satinet Black Lai " " " " Black Pai Blue Chit Brown, S Carmine, Green, Cl Carmine, Green, Cl Carmine Green, Cl Ca | polens lens agging ts sagging ts sagging ts y bagging y bagging y bagging y bagging the y bale rope haking havings, No. 2 tavings, No. 2 tavings, No. 2 tavings, No. 2 tons No. 1 the the the panish mp, Coach Pa "Cordinary ord proper propop, fair int, in oil ssian, fair to nose dry ramarine panish an Dyke 40. The t | No. 1. No. 1. No. 1. White ost folded a leavy Stock rdwares. S, Oils Paints- inters. Logs ta cti. |
| Circular 1 4c F B 1 Gilding Piaters 0 Metal in v B advan Metal, in B advan Metal, | more than His metal, so w b r Gold Metal, so w b r Gold Metal so w b r Gold Metal so width 2 in to 100. width 2 in to 100. width 2 in to 100. width 1 in to width 1 in to 100. width 2 in to 100. width 1 in to 100. width 1 in to 100. width 1 in to 100. width 2 in to 100. width 1 in to 100. width 2 in to 100. width 1 in to 100. width 2 in to 100. width 2 in to 100. width 2 in to 100. width 1 in to 100. width 1 in to 100. width 2 | and over 14 from 4 in over 14 20 30 40 in the Brass 40 in the Brass 5a wed 17 18 and 18 18 in the Brass 5a wed 18 18 in the Brass 18 1 | High Brass Polished. 28, inclusive than No. 28, inclusive than No. 26, not thin than No. 28, inclusive than No. 26, not thin with the thin the thin than No. 36 is Pitthan not Turnings W Brass. 60, 37 60, | Wre. to we have a second and a | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope coi Kontuck Grass roll of the Soft Waste p Rope coi Kontuck Grass roll of the Soft William of the Soft William of the Soft White Si Mixed Mixed Si | polens lens agging tis agging tis y bagging y bagging tagging ty bagging tagging ty bagging tagging ta | No. 1. No. 1. White east folded a leavy Stock rdwares. S. Oils Painte. inters kegs inters kegs inters kegs kegs ged purple. |
| Circular 1 4c F B 1 Gilding Piaters' 0 Metal in v B advan Motal, in 'B advan Metal, iq i Any of the To 'B B. German more than "Advance in and German in mand All Gern So F B ad German in Man in Lan Motal, in 'B advan Motal, in 'B advan Motal, in 'B advan Metal, iq i Motal, iq i Motal, iq i Motal Mota | more than His more than His Metal, So W B r Gold Metal vidth 2 in. to noe. width 2 in. to noe. width 1 in. to width 2 in. to a bove width shaws silver a show of the shaw silver a shaw in the s | and over 14 from 4 in over 14 a 20 a 30 a 40 in owe hass. the Brass. the Brass. the Brass. from 4 in owe than. In Bars. Sawed. Flaned or sintrino fin to No. in, thinner dies, 100. thinner dies, 100. thinner dies, 100. we recommend less, 100. over 1210. we we recommend sarket Metal No. 36. over 1210. the over 1210. self less over 1210. self less over 1210. self less over 1210. over 1210. self less over 1210. self less over 1210. self less over 1210. over 1 | High Brass High Brass Polished 28, inclusir than No. 26, not thin the than No. 26, not the not than No. 26, not than not than No. 26, not than not | Wre. to we have a second and a | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope coi Kontuck Grass roll of the Soft Waste p Rope coi Kontuck Grass roll of the Soft William of the Soft William of the Soft White Si Mixed Mixed Si | polens lens agging tis agging tis y bagging y bagging tagging ty bagging tagging ty bagging tagging ta | No. 1. No. 1. White east folded a leavy Stock rdwares. S. Oils Painte. inters kegs inters kegs inters kegs kegs ged purple. |
| Circular 1 4c F B 1 Gilding Piaters 0 Metal in v B advan Motal, in B advan Metal, in B advan Metal | more than His more than His more than His Metal, So W B r Gold Metal width z in. to noe. width z in. to noe. width z in. to noe. width i in. to width i in. | and over 14 from 4 in over 14 20 | High Brass Polished 28, inclusive than No. 38, inclusive than N | | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope cot Roman Control of the Soft of th | polens lens agging tis sagging tis sagging tis y bagging y bagging y bagging y bagging y bagging tingn y bale rope haking | No. 1. No. 1. White east folded a leavy Stock rdwares. S. Oils Painte. inters kegs inters kegs inters kegs kegs ged purple. |
| Circular 1 4c F B 1 Gilding Platers 0 Metal in v B advan Metal, in B advan Metal in V B advan M | more than His Metal, So W B r Gold Metal So W G r G r G r G r G r G r G r G r G r G | and over in from a dear in over id in over i | High Brass High Brass High Brass Folished 28, inclusive than No. 26, not thin than No. 26, not thin than No. 26, not thin than No. 27, not the not than No. 28, inclusive than No. 29, not thin than No. 29, not than not pank. LAND WIR track Metas \$0.42 44 47 48 60.37 49 49 49 49 49 49 49 49 49 4 | ## ## ## ## ## ## ## ## ## ## ## ## ## | Mixed w Soft woo Gunny b Jute But Kentuck Waste p Rope cot grass root of the sound | polens lens agging tis sagging tis y bagging y bagging y bagging y bagging y bagging y bagging tingn y bale rope haking h | No. 1. No. 1. White east folded a leavy Stock rdwares. S. Oils Painte. inters Logs best kegs and a leavy stock rdwares. Bright Red Red Brown Purple. |
| Circular 1 4c F B 6 Gilding Platers 0 Metal in v B advan Metal, in B advan Metal, | more than His metal, so w b r Gold Metal, so w b r Gold Metal so w b r Gold Metal so width 2 in to 100. width 2 in to 100. width 2 in to 100. width 1 in to width 1 in to 100. width 2 in to 100. width 1 in to 100. width 1 in to 100. width 2 in to 100. width 1 in to 100. width 2 in to 100. width 1 in to 100. width 2 | and over 14 from 4 in over 14 20 39 49 in from 4 in over 14 10 30 49 in from 4 in over 14 10 10 10 10 10 10 10 10 10 | High Brass High Brass Folished. 28, inclusive than No. 26, not thin than No. 27 18, inclusive than No. 26, not thin than No. 27 18, inclusive than No. 26, not thin than No. 27 18, inclusive theta not than No. 27 18, inclusive theta not than No. 29 18, inclusive than No. 29 18, incl | Wre. 48c | Mixed w Soft woo Gunny b Jute But Kentuck Waste p Rope cot grass root of the sound | polens lens agging tis sagging tis y bagging ting y bale rope haking h | No. 1. No. 1. No. 1. White cost folded a leavy stock rdwares. S, Oils Paints. inters Logs Logs Fact. Sandi Red Brown Purple. |
| Circular 1 4c F B 1 Gilding Platers 0 Metal in v B advan Metal, in B advan Metal in V B advan M | more than His metal, so w b r Gold Metal width 2 in to a construction of the construct | and over 14 from 4 in over 14 20 39 49 in from 4 in over 14 10 30 49 in from 4 in over 14 10 10 10 10 10 10 10 10 10 | High Brass High Brass Folished. 28, inclusive than No. 26, not thin than No. 27 18, inclusive than No. 26, not thin than No. 27 18, inclusive than No. 26, not thin than No. 27 18, inclusive theta not than No. 29 18, inclusive theta not than No. 29 18, inclusive than No. 29 18, incl | Wre. Wre. Work. Add a larates spools- and a larates spools- and a | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope cot Research white St Mixed St Imporfec Book Sto White St Mixed St Imporfec Research was a long with the Research was a long was a long with the Research was a long was a | mp, Coach Paint in oil arrisman panish and Purple. Paint in oil arrism from the coach | No. 1. No. 1. White ost folded a leavy Stock Riwares. S, Oils Paints- inters. Leavy Stock Riwares. S, Oils Paints- inters. Leavy Stock Regs. Regs. Leavy Stock Regs. Regs. Leavy Stock Regs. |
| Circular 1 4c F B 1 Gilding Piaters 0 Metal in v B advan Motal, in advan Motal, in advan in ad | more than His metal, so w b r Gold Metal width 2 in to a construction of the construct | and over 14 from 4 in over 14 20 39 49 in the Brass, | High Brass Folished. 28, inclusive than No. 26, not thin than No. 27, not the notice of | Wre. Wre. Work. Add a larates spools- and a larates spools- and a | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope coi k Control of the Soft of the So | polens lens agging | No. 1. No. 1. White east folded a leavy stock rdwares. S. Oils Paintes. Inters. Logs to atl. Logs to atl. Propher to atl. Logs to atl. Propher to atl. Sed. Brown. Purple. |
| Circular 1 4c ¥ B 1 Gilding Platers 0 Metal in v B advan Metal, in B advan Metal, | more than His metal, so w he redding to the redding | and over 14 from 4 in over 14 20 20 20 20 20 20 20 20 20 2 | High Brass Folished. 28, inclusive than No. 26, not thin than No. 27, not thin than No. 27, not thin than No. 27, not the and the not than No. 28, not the and the not than No. 28, not not than No. 2 | Wre. P so P mer than 28, 5c. 16 co. 1 | Mixed w Soft woo Gunny b Jute But Kentuck Waste p Rope cot grass root of the sound | polens lens agging tables agging tables agging tables y bagging y bagging y bagging y bage rope haking haki | No. 1. No. 1. white east folded a leavy stock rdwares. s. Oils Painte. inters best kegs best kegs rdwares. y asst' Common pure dry |
| Circular 1 4c ¥ B 1 Gilding Platers 0 Metal in v B advan Metal, in b B advan Metal, | more than His metal, so w he redding to the redding | and over 14 from 4 in over 14 20 20 20 20 20 20 20 20 20 2 | High Brass Folished. 28, inclusive than No. 26, not thin than No. 27, not thin than No. 27, not thin than No. 27, not the and the not than No. 28, not the and the not than No. 28, not not th | Wre. P so P mer than 28, 5c. 16 co. 1 | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope coi Kontuck Waste p Rope coi Kontuck Waste p Rope coi Kontuck White Si Mixed Si Mix | polens lens agging tis agging ty bagging y bagging ting hit Shavings havings, no a avings, no a avings, no a avings, no a tions, No a tions tions, No a tions | No. 1. No. 1. No. 1. White east folded a leavy stock rdwares. S. Oils Paints. inters. Logs Bed. Red. Brown. Purple. Common. pure dry. in oil. prime |
| Circular 1 4c F B 1 Gilding Platers 0 Metal in v B advan Metal, in B advan German more than Advance German more than Advance Mo.0 to 0.0. No.21 No.0 to 0.0. No.22 No.0 to 0.0. No.22 No.0 to 0.0. No.25 No.0 to 0.0. No.25 No.0 to 0.0. No.25 No.0 to 0.0. No.27 No.26 No.27 No.26 No.27 No.26 No.27 No.26 No.30 Metal in Very B advan Metal | more than His metal, so w b r Gold Metal width 2 in to a construction of the construct | and over 14 | High Brass Folished. 28, inclusive than No. 26, not thin than No. 27, not the not than No. 28, not than not part and the not than No. 36 is Pk. 150, not than not than No. 36 is Pk. 150, not than not than No. 36 is Pk. 150, not than not than No. 36 is Pk. 150, not than not than No. 36 is Pk. 150, not than not than No. 36 is Pk. 150, not than not than No. 36 is Pk. 150, not than not than No. 36 is Pk. 150, not than not than No. 36 is pk. 150, | we, ic. # | Mixed w Soft woo Gunny b Jute But Kentuck Waste p Rope cot grass root of the sound | polens lens agging ty bagging y bagging y bagging y bagging y bagging y bagging y bale rope haking h | No. 1. No. 1. No. 1. White est folded a leavy Stock rdwares. S. Oils Painte. inters. Logs best kegs and Purple. Common. Pure dry in oil prime in oil. Common. Common. Pure dry in oil Common. Commo |
| Circular 1 4c F B 6 Gilding Piaters 0 Metal in v B advan Motal, in B advan Motal German John Motal Mo. ot 0 20 NO.22 NO.22 NO.22 NO.25 NO.2 | more than His metal, so w b r Gold Metal in to a constant His metal, so w b r Gold Metal in to a constant His metal, so w b advance width 1 in. to width 1 in. to constant His metal in the shows width 1 in. to constant His metal in the shows width 1 in. to constant His metal in the shows width 1 in. to constant His metal in the shows width 1 in. to constant His metal in the shows width 1 in the shows with 1 in the shows a show a constant His metal in the shows a constant His metal in the shows a show in the show i | and over 14 from 4 in over 14 20 30 40 in aver 4 in aver 1 | High Brass Folished. 28, inclusive than No. 26, not thin than No. 27, not than No. 27, not than No. 27, not the and where the thin No. 27, not than No. 27, not than not the thin than No. 27, not than No. 27, not than not the than not than No. 27, not than not than No. 27, not than not than No. 27, not than | Wire. 1. 18. 28. 20. \$\pi\$ 1. 28. 20. \$\pi\$ 1. 28. 20. \$\pi\$ 2. 39. 20. \$\pi\$ 3. 30 \$\pi\$ 3. 40. \$\pi\$ 3. 40. \$\pi\$ 40. \$ | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope coi Kentuck Waste p Rope Caraman Sogna Marchael Caraman Bogas Marchael Caraman Marchael Caram | mp, Coach Pa mp, C | No. 1. No. 1. No. 1. White leavy Stock rdwares. S. Oils Paints. inters. Oil, Bright Red Brown Purple. Common Purple dry in oil prime coil asst'd |
| Circular 1 4c F B 6 Gilding Piaters 0 Metal in v B advan Motal, in B advan Motal German John Motal Mo. ot 0 20 NO.22 NO.22 NO.22 NO.25 NO.2 | more than His metal, so w b r Gold Metal in to a constant His metal, so w b r Gold Metal in to a constant His metal, so w b advance width 1 in. to width 1 in. to constant His metal in the shows width 1 in. to constant His metal in the shows width 1 in. to constant His metal in the shows width 1 in. to constant His metal in the shows width 1 in. to constant His metal in the shows width 1 in the shows with 1 in the shows a show a constant His metal in the shows a constant His metal in the shows a show in the show i | and over 14 from 4 in over 14 20 30 40 in aver 4 in aver 1 | High Brass Folished. 28, inclusive than No. 26, not thin than No. 27, not than No. 27, not than No. 27, not the and where the thin No. 27, not than No. 27, not than not the thin than No. 27, not than No. 27, not than not the than not than No. 27, not than not than No. 27, not than not than No. 27, not than | Wire. 1. 18. 28. 20. \$\pi\$ 1. 28. 20. \$\pi\$ 1. 28. 20. \$\pi\$ 2. 39. 20. \$\pi\$ 3. 30 \$\pi\$ 3. 40. \$\pi\$ 3. 40. \$\pi\$ 40. \$ | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope coi Kentuck Waste p Rope Caraman Sogna Marchael Caraman Bogas Marchael Caraman Marchael Caram | polens lens agging tables agging tables agging tables agging tables y bagging bale rope bale bale rope bale bale rope bale bale bale bale bale bale bale bal | No. 1. No |
| Circular 1 4c F B o Gilding Platers o Gilding Platers o Gilding Platers o Gilding Metal in 1 B advan Metal, in 1 B advan German more than "Advance" Advance German more than "Advance" Advance German more than "Advance" Advance German Mo. 10 Mo. 20 Mo. | more than His metal, so w b r Gold Metal width 2 in to a control of the control o | and over 14 from 4 in from 5 in from 6 in | High Brass Folished. 28, inclusive than No. 26, inclusive than No. | Wre 48. - 48. - 48. - 48. - 48. - 48. - 48. - 48. - 48. - 48. - 48. - 510. - 48. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 610 | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope coi Kontuck White St Mixed St Imporfee Book Sto White St Mixed St Imporfee Book St | polens lens agging tis y bagging haking hakin | No. 1. No |
| Circular 1 4c F B o Gilding Platers o Gilding Platers o Gilding Platers o Gilding Metal in 1 B advan Metal, in 1 B advan German more than "Advance" Advance German more than "Advance" Advance German more than "Advance" Advance German Mo. 10 Mo. 20 Mo. | more than His metal, so w b r Gold Metal width 2 in to a control of the control o | and over 14 from 4 in from 5 in from 6 in | High Brass Folished. 28, inclusive than No. 26, inclusive than No. | Wre 48. - 48. - 48. - 48. - 48. - 48. - 48. - 48. - 48. - 48. - 48. - 510. - 48. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 510. - 610 | Mixed w Soft woo Gunny b Jute But Kentuck Waste pp Rope cot grass for the Book Stote of the White Billiam of the Book Stote of the Book St | polens lens agging tagging tagging ty bagging y bagging y bagging y bagging y bagging y bagging the per and scra tings, havings, No. 2, 1 tions, No. 2, 1 tion | No. 1. No. 1. White est folded a leavy stock rdwares. S. Oils Painte. inters. Logs best kegs and Purple. Common. Pure dry in oil. Con, dry. Con, in oil. Con, dry. Con, in oil. Consolution oil. Con, dry. Con, in oil. Con, dry. Con, ast'd |
| Circular 1 4c F B o Gilding Platers o Gilding Platers o Gilding Platers o Gilding Metal in 1 B advan Metal, in 1 B advan German more than "Advance" Advance German more than "Advance" Advance German more than "Advance" Advance German Mo. 10 Mo. 20 Mo. | more than His metal, so w b r Gold Metal width 2 in to a control of the control o | and over 14 from 4 in from 5 in from 6 in | High Brass Folished. 28, inclusive than No. 26, inclusive than No. | Wre. P | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope cot a grant of the Book Store of the White Be Mixed St M | mp, Coach Pa mp, C | No. 1. No. 1. White est folded a leavy Stock rdwares. S. Oils Paintes. inters. Logs best kegs to ati Brown. Purple. Common. Purple. Commo |
| Circular ! 4c # B i Gilding Platers o Gilding Platers o Metal in v B advan Metal, in b Me | more than His metal, so w b r Gold Metal width 2 in to a constant of the const | and over 14 " 20 " 30 " 40 " 30 " 40 " 30 " 40 " 30 " 40 " 10 " 40 " 10 " 40 " 10 " 40 | High Brass Folished. 28, inclusive than No. 26, not thin than No. 27, not thin than No. 26, not thin than No. 26, not thin than No. 26, not the not than No. 26, not the not the not than No. 26, not the not the not than No. 26, not the n | Wre. P | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope cot a grant of the Book Store of the White Be Mixed St M | mp, Coach Pa mp, C | No. 1. No. 1. White est folded a leavy Stock rdwares. S. Oils Paintes. inters. Logs best kegs to ati Brown. Purple. Common. Purple. Commo |
| Circular 1 4c # B 1 Gilding Piaters 0 Metal in v B advan Motal, in 1 B advan Motal, in 1 B advan Motal, in 2 4 per cen 6 0 4 per cen 7 0 4 per cen 6 0 4 per cen 7 0 8 0 4 per cen 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8 | more than His Metal, So w b r Gold Metal width 2 in to a constant of the const | and over 14 " 20 " 30 " 40 " 30 " 40 " 30 " 40 " 30 " 40 " 10 | High Brass Folished. 28, inclusive than No. 26, not thin than No. 27, not thin than No. 26, not thin than No. 26, not thin than No. 26, not the not than No. 26, not the not the not than No. 26, not the not the not than No. 26, not the n | Wre. P | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope cot a grant of the Book Store of the White Be Mixed St M | mp, Coach Pa mp, C | No. 1. No. 1. White est folded a leavy Stock rdwares. S. Oils Paintes. inters. Logs best kegs to ati Brown. Purple. Common. Purple. Commo |
| Circular 1 4c # B 1 Gilding Piaters 0 Metal in v B advan Motal, in 'B advan Mota | more than His metal, so w b r Gold Metal width 2 in to a constant of the const | and over 14 " 20 " 30 " 40 " 30 " 40 " 30 " 40 " 30 " 40 " 10 " 30 " 40 " 10 | High Brass Folished. 28, inclusive than No. 26, not thin widiner than No. 26, not thin widiner than No. 26, not than not than No. 26, not than nor than nor than No. 26, not than nor than nor than nor than nor than | we, ic. # | Mixed w Soft woo Gunny b Jute Bui Kentuck Waste p Rope cot Royal Control of the State of the Sta | polens lens agging tagging tagging ty bagging y bagging y bagging y bagging y bagging y bagging the per and scra tings, havings, No. 2, 1 tions, No. 2, 1 tion | No. 1. No. 1. No. 1. No. 1. White east folded it leavy Stock rdwares. S. Oils Paints- inters. Logs inters. In oil. Common. pure dry in oil. prime coil. asst'd Oils. and bbls. dis. |

Fancy. Soutch and Extra Patterns...

| LEGALE PRIVES, D | |
|--|--|
| Per cent. 9 " " " " " " " " " " " " " " " " " " | 20 35 40 15 50 16 60 (88, 7 |
| American Unst Steel | 86 8 76 8 76 8 76 8 76 8 |
| Sheet Cast Steel, 1st quality \$\psi\$ 15\\\ 2\psi \text{quality} \psi \psi \psi \text{p} \text{p} \text{p} \text{p} \text{p} \text{p} \text{p} \text{p} \text{p} \q | 0 26 26 26 26 26 26 26 26 26 26 26 26 26 |
| Pipe | 11 18 15 26 26 26 30 30 30 30 30 30 30 30 30 30 30 30 30 |
| C 10X14 Prime Charcoal \$8.25 @ 8.55 8.55 1 | Gi in in |
| TRINE PLATE Prime Char. ad quas. Coke. I C 14320 | 7 |
| Paper Stock, &c. | |
| Canvas linen | |
| Canvas linen | SE SO |
| ** Light | SM |
| Paints, Oils, &c. | • |
| Back Lamp, Coach Painters. 2 3 200 Ordinary | Rif |
| Paints P | in I for bra |
| ron Paint, Bright Red. \$\psi \ 2\frac{1}{4}c\$ "Brown \$\psi \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | Nos. Pige Nos. clea Pige |
| ed Lead, American | A que Pist D FFing, stroit |
| | F. |
| allow Ochre, French | - |

.33 Machinery .36 Engine...

| Sund | ries. | | | |
|--|---|--|--|-------------------|
| Asph atum | | | | |
| Renzine | | | 82 | al. |
| Chalk | | | | |
| " Block | | | ****** | |
| Dryer, Patent, Am'n | ass" | cans, | 10%C; | keg, |
| " Block Dryer, Patent, Am'n Frostings | | | ****** | |
| Grue, white | | | ese seed | G 600 4 |
| " Sheet | | | | |
| Glaziers' Points, Ziac Gum, Copal | | | | |
| ii Theman | | | | |
| " Shellac, English | | | | 1 |
| " dark | | | 1 | 4 |
| Litharge. English | | | | OC M |
| Mineral Wool | ****** | | 19 m x34 | @ 15 |
| Shellac, English dark Litharge. English Mineral Wool. Pumic Stone, selected Lum | ps | | | .4 @ |
| Putty, in bladders | ****** | ***** | | ×× .2 |
| Putty, in bladders | | | | 3 |
| in bulk Rotten Stone, soft, English. | | | | 47 |
| Spirits Turpentine | | | | 4 |
| Whiting Spanish | | | | |
| | | | | , |
| Glas | | | | |
| FRENCH WIND | OW OF | A GG | | |
| PRENCH WIND | 011 01 | TAT I SHOW | | |
| | | | | |
| Prices current pe | r box o | f 30 fee | et. | |
| Prices current pe | er box o | f 30 fee | et. | |
| | - | - | | |
| Single ThickDi | scount | 70 & 1 | 0 % | |
| | - | - | | 4 th |
| Single Thick, -Di | seount | ad. | 0 % | - |
| Single Thick.—Dissipation of the street of t | scount | ad. 8 6.75 | 3d. 8 6.25 | 8 5 |
| Single Thick.—Dissipation of the street of t | scount | ad. \$ 6.75 8.00 10.50 | 3d. \$ 6.25 7.50 9.75 | 8 5. |
| Single Thick, —Dissess. 5 x 8 to 10 x 15. 15 x 22 to 20 x 30. 15 x 32 to 34 x 30. | #8.00 8.75 11.24 | ad. \$ 6.75 8.00 10.50 11.50 | 3d. 8 6.25 7.50 9.75 10.00 | 8 5. |
| Single Thick, —Dissess. 5 x 8 to 10 x 15. 15 x 22 to 20 x 30. 15 x 32 to 34 x 30. | # 8.00 8.75 11.24 12.75 13.50 | ad. 8 6.75 8.00 10.50 11.50 12.25 | 3d. 8 6.25 7.50 9.75 10.00 11.25 | \$ 5. 7. 8. |
| Single Thick, —Dissess. 5 x 8 to 10 x 15. 15 x 26 to 10 x 15. 15 x 22 to 20 x 30. 15 x 36 to 24 x 30. 25 x 26 to 24 x 36. | # 8.00 8.75 11.24 12.75 13.50 | ad. 8 6.75 8.00 10.50 11.50 12.25 | 3d. \$ 6.25 7.50 9.75 10.00 11.25 11.75 | * 5. 7. 8. |
| Single Thick, —Di SIZES. 0 X 8 to 10 X 15. 11 X 14 to 16 X 24. 18 X 20 20 X 50. 20 X 26 to 24 X 35. 20 X 26 to 26 X 44. 20 X 36 to 26 X 44. | 800unt 8 8.00 8.73 11.24 12.75 13.50 14.75 16.25 | #6.75 8.00 10.50 12.25 13.75 | 3d, 8 6.25 7.50 9.75 10.00 11.25 11.75 | 8 5. 7. 8. |
| Single Thick, —Dissess. 8 x 8 to 10 x 15. 11 x 14 to 16 x 24. 18 x 22 to 20 x 30. 15 x 36 to 24 x 30. 20 x 28 to 24 x 30. 20 x 26 to 24 x 36. 20 x 36 to 20 x 44. 20 x 46 to 30 x 54. | 86.00 8.73 11.24 12.75 13.40 14.75 16.25 17.25 | #0 & 10 # 6.75 8.00 10.50 11.50 12.25 13.75 15.00 16.00 | 3d, 8 6.25 7.50 9.75 10.00 11.25 13.75 13.60 13.50 | * 5. 7. 8. |
| Single Thick, —Di SIEES. b x 8 to 10 fx 15. 11 x 14 to 16 x 24. 15 x 22 to 20 x 30. 25 x 26 to 24 x 30. 25 x 26 to 25 x 36. 25 x 26 to 20 x 30. 25 x 26 to 20 x 30. | 86.00 8.75 11.24 12.75 13.40 14.75 16.25 17.25 18.49 | 2d. 8 6.75 8.00 10.50 11.50 12.25 13.75 15.00 16.00 | 3d. 8 6.25 7.50 9.75 10.00 11.25 11.75 13.00 15.50 | * 5. |
| Single Thick, —District. SIEES. 5 | 800unt 8 8.00 8,73 11.24 12.75 13.50 14.75 16.25 17.25 18.79 19.40 | 3d. 8 6.75 8.00 10.50 11.50 12.25 13.73 15.00 16.75 18.00 | 3d. \$ 6.25 7.50 9.75 10.00 11.25 13.50 15.50 15.00 16.00 16.00 | * 5-7. |
| Single Thick,—Di SIEES. b x 8 to 10 x 15. 11 x 14 to 16 x 24. 18 x 22 to 20 x 30. 15 x 36 to 24 x 30. 20 x 28 to 24 x 30. 20 x 28 to 24 x 30. 20 x 26 to 24 x 30. 30 x 50 to 30 x 54. 30 x 50 to 30 x 56. 30 x 50 to 34 x 50. 36 x 50 to 40 x 50. | 18t, 8.00 8.73 11.24 12.75 13.40 14.75 16.25 17.25 18.69 19.43 21.00 | 3d. 8 6.75 8.00 10.50 11.50 12.25 13.75 15.00 16.00 16.75 18.00 19.50 | 3d. \$ 6.25 7.50 9.75 10.00 11.25 13.50 15.50 15.00 16.00 16.00 | * 5-7. |
| Single Thick, —District. SIEES. 5 | 18t, 8.00 8.73 11.24 12.75 13.40 14.75 16.25 17.25 18.69 19.43 21.00 | 3d. 8 6.75 8.00 10.50 11.50 12.25 13.75 15.00 16.00 16.75 18.00 19.50 | 3d. \$ 6.25 7.50 9.75 10.00 11.25 13.50 15.50 15.00 16.00 16.00 | * 5-7. |
| Single Thick,—Di SIEES. b x 8 to 10 x 15. 11 x 14 to 16 x 24. 18 x 22 to 20 x 30. 15 x 36 to 24 x 30. 20 x 28 to 24 x 30. 20 x 28 to 24 x 30. 20 x 26 to 24 x 36. 20 x 36 to 20 x 44. 20 x 46 to 30 x 50. 30 x 50 to 30 x 50. 30 x 50 to 34 x 40. 30 x 50 to 34 x 40. 36 x 50 to 40 x 50. | 18t, 8.00 8.73 11.24 12.75 13.40 14.75 16.25 17.25 18.69 19.43 21.00 | 3d. 8 6.75 8.00 10.50 11.50 12.25 13.75 15.00 16.00 16.75 18.00 19.50 | 3d. \$ 6.25 7.50 9.75 10.00 11.25 13.50 15.50 15.00 16.00 16.00 | * 5.7. |
| Single Thick,—Dissert Sizes. b x 8 to 10 x 15. 11 x 14 to 16 x 24. 18 x 22 to 20 x 30. 15 x 36 to 24 x 30. 26 x 26 to 24 x 30. 26 x 26 to 24 x 30. 26 x 36 to 25 x 44. 26 x 46 to 30 x 54. 30 x 56 to 34 x 50. | 8count 8 8.00 8,75 11.24 12.75 15.45 17.25 17.25 18.29 19.45 21.00 Discount | 740 & 1. 8 6.75 8.00 10.50 11.50 12.25 13.75 15.00 16.07 18.00 19.50 nt 60 % | 3d. 8 6.25 7.50 9.75 10.00 11.75 13.00 15.00 16.00 18.00 | 8 5. 7. 8. |
| Single Thick, —Di SIEES. 5 X 8 to 10 X 15. 11 X 14 to 16 X 24. 18 X 22 to 20 X 50. 15 X 36 to 24 X 50. 20 X 56 to 26 X 56. 30 X 52 to 30 X 50. 30 X 56 to 36 X 56. 30 X 56 to 46 To 50 X 56. 30 X 56 to 46 To 50 X 56. 30 X 56 to 46 To 50 X 56. 30 X 56 to 46 To 50 X 56. 50 X 56 to 46 To 50 X 56. Double Thick.—I | 800 Ist. 8 8.00 8,73 11.24 12.75 16.25 17.25 18.49 19.40 21.00 Discourse. | 740 & 10 2d. 8 6.75 8.00 10.50 10.50 11.50 12.25 13.75 15.00 16.75 18.00 19.50 nt 60 % 2d. 811.00 | 3d. 8 6.25 7.50 9.75 10.00 11.25 11.75 13.00 13.00 18.00 3d. | 1 th. |
| Single Thick, —Di SIEES. b x 8 to 10 fx 15. 11 x 14 to 16 x 24. 18 x 22 to 20 x 30. 15 x 36 to 24 x 30. 25 x 36 to 24 x 30. 25 x 36 to 25 x 44. 25 x 36 to 25 x 44. 25 x 36 to 26 x 44. 25 x 36 to 26 x 44. 26 x 46 to 30 x 50. 27 x 50 to 34 x 50. 28 x 50 to 34 x 50. Double Thick,—I | 800 Ist. 8 8.00 8,75 11.24 12.75 13.40 14.75 16.25 17.25 18.49 19.40 21.00 Discourse. | #6 & II. #6.75 8.00 10.50 II.50 III.50 II.50 III.50 II.50 III.50 II.50 III.50 II.50 III.50 II.50 III.50 II.50 III.50 II.50 III.50 II.50 III.50 II.50 III.50 II.50 II.50 III.50 II.50 II.50 II.50 III.50 III | 3d. 8 6.25 7.50 9.75 10.00 11.25 11.75 13.50 15.00 18.00 3d. \$10.00 12.75 18.00 | 1 th. |
| Single Thick, —Di SIEES. b x 8 to 10 fx 15. 11 x 14 to 16 x 24. 18 x 22 to 20 x 30. 15 x 36 to 24 x 30. 25 x 36 to 24 x 30. 25 x 36 to 25 x 44. 25 x 36 to 25 x 44. 25 x 36 to 26 x 44. 25 x 36 to 26 x 44. 26 x 46 to 30 x 50. 27 x 50 to 34 x 50. Double Thick.—I SIEEE. 6 x 8 to 10 x 15. 11 x 14 to 16 x 24. | 800 Ist. 8 8.00 8,75 11.24 12.75 13.40 14.75 16.25 17.25 18.49 19.40 21.00 Discourse. | # 60 % I | 3d. \$ 6.25 7.50 9.75 10.00 11.25 13.00 15.00 16.00 18.00 \$10.00 12.75 16.00 12.75 16.00 | 1 th. |
| Single Thick, —Di SIEES. b x 8 to 10 fx 15. 11 x 14 to 16 x 24. 18 x 22 to 20 x 30. 15 x 36 to 24 x 30. 25 x 36 to 24 x 30. 25 x 36 to 25 x 44. 25 x 36 to 25 x 44. 25 x 36 to 26 x 44. 25 x 36 to 26 x 44. 26 x 46 to 30 x 50. 27 x 50 to 34 x 50. Double Thick.—I SIEEE. 6 x 8 to 10 x 15. 11 x 14 to 16 x 24. | 800 Ist. 8 8.00 8,75 11.24 12.75 13.40 14.75 16.25 17.25 18.49 19.40 21.00 Discourse. | # 6.75 # 6.75 # 6.75 # 8.00 10.50 11.50 12.25 13.75 13.75 18.00 16.00 19.50 # 10.00 # 13.75 17.75 19.25 20.75 | 3d. \$ 6.25 7.40 9.75 10.00 13.40 15.00 18.00 \$10.00 12.75 16.00 18.00 18.00 | 1 th. |
| Single Thick,—Di SIZES. 0 X 8 to 10 X 15. 11 X 14 to 16 X 24. 12 X 26 to 20 X 15. 13 X 14 to 16 X 24. 14 X 26 to 20 X 25. 26 X 26 to 24 X 26. 26 X 26 to 24 X 26. 26 X 26 to 26 X 26 X 26. 27 X 26 to 26 X 26 X 26. 28 X 26 to 26 X 26 X 26. 28 X 26 to 26 X 26 X 26. 29 X 52 to 30 X 54. Double Thick,— BIZES, 6 X 8 to 10 X 15. 11 X 14 to 16 X 26. 11 X 15 X 26 X 26. 26 X 26 to 26 X 26. 26 X 26 to 26 X 26. 26 X 36 to 26 X 26. 26 X 36 to 26 X 26. 26 X 36 to 26 X 26. | # 8.00 8,73 11.24 11.24 11.25 11.25 11.25 11.25 11.25 12.50 14.75 15.00 Discoul 1st. #12.00 14.75 19.00 21.50 21.50 23.00 24.50 23.00 24.50 | 2d. 8 6.75 8.00 10.50 11.50 12.25 13.73 15.00 16.00 16.75 18.00 17.50 2d. 811.00 13.75 19.25 20.75 | 3d. \$ 6.25 7.50 9.75 10.00 11.25 11.75 13.00 15.00 16.00 18.00 3d. \$10.00 18.00 18.00 18.00 18.00 18.00 18.00 | 1 th. |
| Single Thick, —Di SIEES. b x 8 to 10 fx 15. 11 x 14 to 16 x 24. 18 x 22 to 20 x 30. 15 x 36 to 24 x 30. 25 x 36 to 30 x 34. 25 x 36 to 30 x 54. Double Thick.—I BIEER. 6 x 8 to 10 x 15. 11 x 14 to 16 x 24. 18 x 22 to 20 x 30. SIEER. 6 x 8 to 10 x 15. 11 x 14 to 16 x 24. 18 x 22 to 20 x 30. 25 x 36 to 30 x 54. 26 x 36 to 30 x 54. 26 x 36 to 30 x 54. 36 x 36 to 30 x 36. 36 x 36 to 30 x 46. 36 x 36 to 30 x 46. 36 x 36 to 30 x 46. | # 8.00 8.73 # 8.00 8.73 # 12.75 # 13.40 14.75 # 17.25 # 19.40 21.00 Discour ## 12.00 14.75 19.00 21.00 21.00 21.00 22.00 23. | #6 & 1 #6.75 #6.75 #8.00 10.50 10.50 11.50 15.00 16.00 1 | 3d. \$ 6.25 7.50 9.75 10.00 11.25 13.50 15.50 16.00 18.00 \$10.00 18.00 18.00 18.00 18.00 18.30 19.25 21.2 | 1 th. |
| Single Thick, —Di SIEES. b x 8 to 10 fx 15. 11 x 14 to 16 x 24. 18 x 22 to 20 x 30. 15 x 36 to 24 x 30. 25 x 36 to 30 x 34. 25 x 36 to 30 x 54. Double Thick.—I BIEER. 6 x 8 to 10 x 15. 11 x 14 to 16 x 24. 18 x 22 to 20 x 30. SIEER. 6 x 8 to 10 x 15. 11 x 14 to 16 x 24. 18 x 22 to 20 x 30. 25 x 36 to 30 x 54. 26 x 36 to 30 x 54. 26 x 36 to 30 x 54. 36 x 36 to 30 x 36. 36 x 36 to 30 x 46. 36 x 36 to 30 x 46. 36 x 36 to 30 x 46. | # 8.00 8.73 # 8.00 8.73 # 12.75 # 13.40 14.75 # 17.25 # 19.40 21.00 Discour ## 12.00 14.75 19.00 21.00 21.00 21.00 22.00 23. | #6 & I #6.75 8.00 10.50 11.50 12.25 13.75 15.00 16.75 18.00 19.50 mt 60 % #11.00 13.75 17.75 19.25 20.75 23.00 25.00 25.00 25.00 26.00 26.00 27.00 28.00 | 3d. \$ 6.25 7.40 9.75 10.00 11.25 13.40 15.00 18.00 18.00 \$10.00 12.75 16.00 18.00 18.25 19.25 21.25 22.25 22.25 | 1 th. |
| Single Thick,—Dissies, Sizes, | # 8.00 8.73 11.278 12.78 13.40 14.75 17.25 18.29 19.40 21.00 Discour 1st. #12.00 14.75 19.00 21.00 20 20 20 20 20 20 20 20 20 20 20 20 2 | #6 & I #6.75 #8.00 IO.50 I | 3d. \$ 6.25 7.50 9.75 10.00 11.75 13.00 13.50 15.00 16.00 12.75 16.00 12.75 16.00 12.75 16.00 12.75 16.00 12.75 16.00 12.75 16.00 12.75 16.00 12.75 16.00 12.75 16.00 12.75 16.00 12.75 16.00 12.75 16.00 12.75 16.00 12.75 16.00 12.75 16.00 12.75 16.00 16.00 12.75 16.00 | 1 th. |
| Single Thick, —Di SIEES. b x 8 to 10 fx 15. 11 x 14 to 16 x 24. 18 x 22 to 20 x 30. 15 x 36 to 24 x 30. 25 x 36 to 30 x 34. 25 x 36 to 30 x 54. Double Thick.—I BIEER. 6 x 8 to 10 x 15. 11 x 14 to 16 x 24. 18 x 22 to 20 x 30. SIEER. 6 x 8 to 10 x 15. 11 x 14 to 16 x 24. 18 x 22 to 20 x 30. 25 x 36 to 30 x 54. 26 x 36 to 30 x 54. 26 x 36 to 30 x 54. 36 x 36 to 30 x 36. 36 x 36 to 30 x 46. 36 x 36 to 30 x 46. 36 x 36 to 30 x 46. | # 8.00 8.73 # 8.00 8.73 # 12.75 # 13.40 14.75 # 17.25 # 19.40 21.00 Discour ## 12.00 14.75 19.00 21.00 21.00 21.00 22.00 23. | #6 & I #6.75 8.00 10.50 11.50 12.25 13.75 15.00 16.75 18.00 19.50 mt 60 % #11.00 13.75 17.75 19.25 20.75 23.00 25.00 25.00 25.00 26.00 26.00 27.00 28.00 | 3d. \$ 6.25 7.40 9.75 10.00 11.25 13.40 15.00 18.00 18.00 \$10.00 12.75 16.00 18.00 18.25 19.25 21.25 22.25 22.25 | 1 10. |

TACKLE BLOCKS BURR & CO.,

Manufacturers of Waterman and Russel's atent Iron Strapped Blocks. ROPE STRAPPED BLOCKS. 31 Peck Slip, New York.

THE AVALANCHE

ROTARY, FLOUR AND MEAL



coop, Heasure, Mixer, Weigher, Egg cater, Rice Washer: Tomate, Starch, fine and Fruit Strainer. Guaranteed the very best, and the cheapest the jobbing trade. It commends itself where-er shown.

. DUBRUL & CO., 441 & 443 Plum St. autern and Slave Manuf'rs. CINCINNATI, O. CITH BROS. & CO., Agenta, 73 Fulton st., N. Y.

Gunpowder.

DUPONT'S

fle, Sporting and Blasting Powder

The most popular Powder in use.

Dupont's Gunpowder Mills, established 1801, have maintained their great reputation , 78 years. Manufacture the following cele-ated brands of Powder:

DUPONT'S DIAMOND GRAIN, 1 (coarse) to 4 (fine), unequaled in strength, quick and cleanliness; adapted for Glass Ball and

DUPONT'S EAGLE DUCKING. (coarse) to 3 (fine), burning slowly, strong and great penetration; adapted for Glass Ball, Duck and other shooting. DUPONT'S EAGLE RIFLE,

"LIPONT'S RIFLE, Fg. "Sea Shooting,"
g and FFFg.—The Fg for long range rifle shoot
the FFg and FFFg for general use, burning
ng and moist.

ong and moist.

Iso all kinds of Sporting, Mining, Shipping and sting Powders of all sizes and descriptions. Specia des for export, Also, Musket, Canon, Mortas I Mammoth Powder, U. S. Government standard vier manufactured to order of any required grain root. Agencies in all cities and principal towns output to the U. S. Bepresented by

L. KNEELAND, 70 Wall St., N. Y. N. B.—Use none but Dupont's Fg or FFg Powder for long-range Rifle shooting.

CUN POWDER. Laflin & Rand Powder Co.

No. 39 Murray Street, New York, Manufacture and sell the following calebrated brands f Sporting Fowder known everywhere as ORANGE LIGHTNING,

ORANGE DUCKING,

ORANGE RIFLE more popular than any Powder now in use.

Blasting Powder and Electrical Blasting Apparatus.
Military Powder on hand and made to order.

SAFETY FUSE, FRICTIONAL & PLATINUM FUSES. Pamphlets showing sizes of grain sent free

PROPRIETORS OF



VISE & TOOL WORKS

PICKS, MATTOCKS, GRUB HOES, HAMMERS.

WROUGHT IRON STEEL FACE (P. W. PATTERN.)



Sole Agents for

H. Boker & Co.'s Celebrated "Tree" Brand Cutlery. R. Heinisch's Sons Unrivalled Shears, Trimmers, Scissors, Japanned and Nickled Ward & Payne's Sheep Shears. Peugeot Brothers' Horse Clippers.

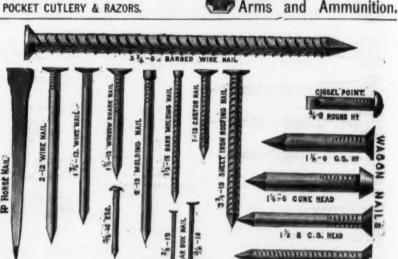
J. W. GARDNER'S

Unequaled and 66 Warranted Superior to All"

Pocket Knives and Barlows.

Manhattan and O. K.

LAMSON & GOODNOW MFG. TABLE CUTLERY, Guns and Pistols FISHING TACKLE,



Steel, Iron and Brass Nails and Barbed Nails Of every kind.

Roofing and Moulding Nails, Escutcheon Pins, Chair and Caster Nails, Cigar Box and Window Shade Nails, Wagon and Boat Nails,

COMPANY, THE HP

Cleveland, Ohio.

HALL'S PATENT DOUBLE COMPOUND LEVER CUTTING NIPPERS.



Manufactured by THE INTERCHANGEABLE TOOL COMPANY, of New York

PETER A. FRASSE & CO. Sole Agents, 95 Fulton Street, New York.

BOUDREN'S PATENT ADJUSTABLE DASH LAMP. REMODELED GREATLY MPROVED Perfection Attained.

Flame Regulated

OUTSIDE.

PRICES REDUCED.

GUARANTEED To Burn Brilliantly OVER THE ROUCHEST ROADS.

SPLENDID Barn Lantern.

WHITE MANUFACTURING CO.,

Manufacturers of all kinds of Carriage and Hearse Lamps and Mountings BRIDGEPORT, CONN.

HENRY DISSTON & SONS

KEYSTONE SAW, TOOL,



STEEL and FILE WORKS,

FRONT AND LAUREL STS., Philadelphia.

BRANCH WORKS: Tacony, Pa.; Chicago, III.

We desire to call attention to the improvement in putting up our goods, substituting boxes for paper covering. This will prove a great advantage to the dealer, saving the time consumed in untying and tying, also keeping them in better condition.

The new style Box here shown is our latest. We have been putting up the No. 76 D-8 and No. 120 Saws in boxes containing one-third of a dozen.



We have decided to put up all the saws marked "Disston" in this manner.

The boxes will contain # dozen, and be assorted as follows: \$\frac{5}{4}, \frac{7}{4}, \frac{7}{8}, \frac{8}{9}, \frac{7}{10}, \frac{10}{11}, \frac{11}{12}, \text{which makes two of each size teeth in a box.}

We will send all of the same size teeth in a box, if so ordered.

Henry Disston & Sons.



Hot Forged and Cold Hammered Pointed,

Are the only Nails in market that are made in imitation of the Hand Process. They have the uniformity of Machine Nails and the toughness of those hammered by hand Our

HOT FORGED AND COLD HAMMERED POINTED NAILS

Are the Standard Nails,

and are acknowledged to be the best in the market. They are used by the best shoers in New York, Brooklyn, Philadelphia, Chicago, Saint Louis, Milwaukee, Baltimore, &c., and

GENERALLY THROUGHOUT THE UNITED STATES,

They also compete successfully in Foreign Countries with machine and hand-made Nails of their

AUSABLE HORSE NAIL CO.,

4 Warren St., New York.





WM. H. HASKELL & CO., Pawtucket, R. I.

MANUPACTURERS OF

COACH SCREWS

(With Gimlet Points),

Machine and Plow Bolts, FORGED SET SCREWS,

TAP BOLTS.



Bemis & Call Hardware & Tool Co.

BEMIS & CALL HARDWARE & TOOL CO., Springfield, Mass.

Iron and Brass Wood Screws.

We manufacture a full line of IRON AND BRASS SCREWS.

Quality, finish and tests as to strength, guaranteed equal to any in the market. in the market.

With improved facilities and largely increased capacity for production, we can fill orders promptly, and invite inquiries for dis-

Philadelphia Screw Co., Limited, Twelfth and Buttonwood Streets, PHILADELPHIA.

HOLIDAY GOODS.



Small boxes of excellent Tools, all warranted.

Price, in sets, from \$1 to \$3, in Pasteboard, Chestnut and Black Walnut Boxes.



BUCK BROTHERS,

Millbury, Mass. RIVERLIN WORKS.



CARPENTER MALLETS Of every description.

Giant Car Pusher and Faucets.



Send for Catalogue.

Bergen Port Spelter

WORKS & FURNACES Bergen Port, N. J. PURE

LEHICH SPELTER

From Lehigh Ore. Especially adapted for Cartridge Metal and German Silver.

Also manufacturers of BERGEN PORT OXIDE ZINC. superior for Liquid Paint on account of its body and wearing properties.

F. OSCOOD & CO., Proprietors. E. A. FISHER, Agent, 13 Burling Slip, N. Y.



ESTABLISHED. - 1856

Warranted Cenuine Cucumber Pumps & Pipe. Also Pop Pumps, Lined Pumps, &c. The Trade Supplied So.

H. B. GRIFFING,
60 Cordandt St., N. Y.
P. MANN, Washington, D. C.
SCOBIE, HARRISON & PARKER, 125 Liberty Street, Fittsburgh, Pa.
KNECHT & THOMAS,
Winchester, L2 The Trade Supplied by

A. B. GUNNISON Manufacturer, ERIE, PA. THE "EDDY" STRAIGHTWAY

VALVES FIRE HYDRANTS. Axe, Hatchet, Powder a

MOHAWK & HUDSON MFC. Co.

BENTON, FAULKNER & BIRD, 16 New Chursh creet, New York Agents.



GEO. M. EDDY & CO., Manufacturers of

Measuring Tapes

of Cotton, Linen & Steel. FOR ALL PURPOSES. 351 to 363 Gissoon Ave. Brooklyn, M. W.

New York Wholesale Prices, December 17, 1879.

| HARDWARE. | Carriage and Tire, Common | Cocks, Brass. dis 35 % dis 35 % dis 35 % | Gimiets. Nail and Spike. "Bee" Gimiets. "Eureka "Gimiets. "Eureka |
|--|--|---|--|
| | " Philada. Patterndis 65&5 % Shelton's(01d list) dis 60&10 \$ | Globe | "Eureka "Gimlets. dis to % "Diamond 'Gimlets. dis 40 % Double Cus Shepardson's. dis 40 % |
| A nvils | R. R. & Carris (old list) | Coffee Mills. | Double Cus Shepardson's dis 50 % |
| Armitage's Mouse Hole. 9% @ 9% c Trenton to%c | Fire. Am. Screw Co.'s. Phila, new list, Nov 1, '79, dis 65% " "Bay State | Increase Wilson's | |
| Augers and Bits. | " R. B. & W | Reard and Box net | Glue Pets, Tinned and Enameled |
| Conn. Valley Mfg. Co Douglass Mf . Co | " R. B. & Wdis 40 % Plowdis 40 % | Per dox \$14.00 | |
| Humphrevsville Mfg. Co dis 40&10 % | " R. B. & W | Compasses, Dividers, &c. dis socio \$ Compasses dis socio \$ Callipers dis socio \$ | Sargent's Patent |
| Baecher (French, Swift & Co) | Bolt Ends "dis 55 % | Dividers. dis 50&10 S Bemis & Call Co.'s Dividers. dis 50&10 S Compasses & Callipers. dis 50&20 S Wing & Inside or Outside.dis 50&5 S | Gun Wads. |
| Nobles Mfg. Co | Horax | " Compasses & Calipers | U.M. C. B. E. 11 up |
| Łok's, Douglass Mfg. Codis 50 % | First quality. no Augers85,00 \$6.75 dis 40 \$ " with Augers 8.50 10.25 dis 40 \$ | " Double | " 9 & 11 |
| Bneil Mfg. Co. s C. S. Augers dis 40 % | Snell's, no Augers 2.75 3.50 net. | Excelsior. dis 50 % Buller's Patent dis 25 % Coopers' Tools. | Hammers. New List of Dec. 10th, 1878dls 15 % Cheney's, List January, '79 |
| " C. S. Bits | BracesBarber's Patent dis 4085% | Bradley'sdis 15 @ 20 % Corkscrows.—Humason & Bdis 33½ % | |
| Patent Solid Headdis 30 % | O. S. Backus | Corn Knives and Cutters.—Bradley'sdis 10 % Wadsworth'sdis 331/4 % | dis 5 Magnetic Tack, Nos. 1, 2, 3, \$1.25, 1.50 and 1.75. dis 25&105 Warner & Noble's |
| Russell Jennings' Auger. Dowel, Machine- Dowel and Hand-Rail Bitsdls 10&10&10 % | Spofford's Patent | Crow Bars. \$\Pi\$ b 7 c Cast Steel. \$\Pi\$ b 7 c Iron, Steel Points. \$\Pi\$ 5\%c | |
| Rassell Jennings' Augers,dis 16%&10&10&10 % Russell Jennings' Car and Machine Bits, Boring- | Tves' Patent Braces dis 54@55&10 % Common Bali (American) dis 50 % | Curling Irons, &c. dis 10 % ½, %, % in., \$1.80 2.00, 2.40 dis 10 % Curling Tongs. \$2 dos \$3.6c, dis 10 % Pinching Irons. \$2 dos 7.50, dis 20 % | Halters. Covert's Pat. Rope |
| Machine and Millwrights' Augers dis 25&10&10&10 % Imitation Jenning's Bitsdis 40@45 % | BracketsShelf (Sargent's) Fancydis 55&10 % | Curling Tongs | Hand Cuffs and Leg Irons. Providence Tool Co.'s Hand Cuffs, \$15,00 \$\pi\$ dox } dis 10 \$\frac{1}{2}\$ Leg Irons, \$25 \$\pi\$ doz} |
| Ives' "Jenaings" Bitsdis 33\6\8\10\% Lewis' Single Twist Bits'dis 40\% | Bright Wire Goods list of Dec. 15, 1879.dis 60&10 % | Curry Combs. Gis 40 % Fitch's (List of No. 240. \$1). Gis 40 % Houchkiss Novetty Gis 20 % Also 20 % | Tower's dis 25 % |
| Andrews Bits | Sargent'sdis 60&10 % | Lawrencedis 40 % Lawrence, with detachable Mane Combdis 33½ % Rubber | Nos o I 2 3 4 |
| " Ives | Totchkiss'low list dis 35 % «uma∘on Beckiey & Co.'s (low list)dis 60 % | Curtain Pins.—Silvered Glass dis 15 % White Enamel | Ronged Iron Drop Latches |
| " Parmelee's\$20 and \$30 .dis 33\4 % | Butts. Wrought Brassdis 45 % | Cutlery Co. (Table) net Am. Miller Bro. s Cutlery Co dis 25 % Barmason & Beckley Pocket dis 25 % F. W. Kogers & Son. A. dis 40% & 5 % Naugatuck Cutlery Co. list net Aaron Burkinshaw's Pocket dis 25 % | |
| Hollow Augers Ives | 'ast Brass, Tiebout's | Humason & Beckiey, Pocket | no Plate, 66c net |
| " Bonnev's Adjust \$\pi doz \pi_48-dis_40 \fo \text{''} \text{Stearns' Adjust} \$\pi doz \pi_48-dis_2<\pi_2 \fo \text{''} | COMMON CAST, NOT DRILLED. | Naugatuck Cutlery Co | Flush Chest. dis coato s Lifting. dis 5,02 rg. Saw and Plane dis 5,02 rg. Saw and Plane dis 5,02 rg. Saw Handles. dis 5,05 rg. Saw Handles. dis 5,05 rg. Saw Handles. dis 5,05 rd. Saw Handles. dis 5,05 |
| " Ives' Expansiveeach \$4.50—dis 30 % " Univ'sal Expansive, each \$4.50—dis 10 % | " Broad dis 40&10&10 \$ | Embossed Glit | Boynton's Pat. Loop Saw Handles |
| Ofmiet Bits87.50 ₩ gross, dis 45 % | DRILLED AND WIRED. | The can big selection | Brad Awi |
| " Bee" | Fast Joint, Narrow | Torrey's Roa | |
| Double Cut Gimlet Fits Shepardson'sdis 40 % Et. Valley Mfg. Codis 30&10 % | Japanned dia solt o % | Gem (Coil)— No. 1, Large, Japanued | Apple " " assorted, " 5.00 " " large, " 6.00 Socket " " assorted, " 3.00 dis Framing " assorted, " 5.00 25&10 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ |
| " Hartwell'sdis 60&10 % Douglass'dis 40 % | with Acorms | Gen (Coll——————————————————————————————————— | Auger, assorted, # gross |
| " Ives" | Warret a Winges dis 55&10 % | Japanned # dom \$2.00 2.50 3.50 | Patent Auger, Ives 7.00 Pouglass 8 set \$1.25, dis 10 % Bwan's. \$\pi\$ set \$1, dis 20\$\$10 \$\pi\$ |
| L'Hommedieu's Ship Augersdis 15 % Watrous Ship Augersdis 25 % | Acorns | Niekeled W dos 5,50 6,00 7,00 Premium (Coil)- Nos. 1 2 3 | Hangers. Barn Doordis 55@to % |
| A I Hatta | " Plated Tipsdis 55&20 % WROUGHT IBON. | Coppered. #0 08 400 450 500 dls 30 5 Mekeled. #0 08 500 700 700 Premium (Coil)- Nos. 1 2 3 Japanned. #0 08 \$7.00 5,500 700 Nickeled. #0 08 \$7.00 5,500 700 Nickeled. #0 08 \$7.00 5,500 700 Nickeled. #0 08 \$7.00 5,500 700 8tar (Coil)-For Cop'd, Nickel-Plated, &c. see list. No. 4.0 100 0 Fy)-Nickel-Plated, &c. see list. | |
| Sewing, Brass Ferrule\$3.50 \(\pi\) gross—dis 40\(\pi\) 5 | Fast Joint Narrowdis 40&10 \$ | | Novelty Challenge dis 50 % Climax (Anti-Friction) dis 65 % Sterling Improved (Anti-Friction), dis 65 % Charitree dis 50 % |
| Patent Sewing, Short\$1.00 \$\psi\$ dos-dis 40\$to \$\frac{1}{2}\$ | Broaddis40&10 % | No. 7, Larke | Cheritree |
| * Peg Plain Top\$10.00 # gross—dis 40&10 % * Leather Top 13.00 * dis 40&10 % | Loose Joint, Broad | No. 6, Screen Door Mise. # dos #2.00 (Mis 25, No. 6, Medium # dos 2.50) No. 7, Larve. Sabin's Lever No. 1, \$1; 2, \$1.00; 5, \$2; 4, \$2.50; dis 35, 5 Sabin's Boss, No. 1, \$4.00; 3, \$4.00; 3, \$3.00; dis 0.810; \$ Sabin's Crown | Harness Snaps. Henshaw'sList of 11/6 changed to 14.00, dis 55.82 \$ Judd's |
| A cute Band State, &C. | Inside Blind, Regulardis socio % | Barker's Coucealed | Motoh bring' GIS IO % |
| Awis Sewing, Common | Loose Pin. Wrtdis 508:10 % | Drawing Ruives. | Andrews' |
| Shouldered Peg | America Spiral Spring Butt Co., Jap'ddis 25 % "" Fancydis 20 % | Crosman Vo. | Covert |
| Shouldered Brad # gross \$2.70—dis 25&10 % Handled Brad\$7.00 # gross—dis 25&10 % | Gem Spiral Spring Butts, Japanneddis 25 \$ | Bradley dis 35 % Adjustable Handie dis 20 % Witherby Tool Co. dis 70 % | Binach Blood |
| Handled Scratch \$7.00 \(\psi \) gross—dis 2-&10 \(\psi \) Socket Scratch \(\psi \)1.00@\$1.25 \(\psi \) dos—net | Geer's Single and Double Actingdis 25 % Sabin Mfg. Co.'s Double Actingdis 35 % | Orilis and Drill Stocks | Obtantion Nos res 20 dos 62 as 65 as 65 as |
| Brad Sets, Aiken's | Union Spiral Spring, Japanneddis 25 % | Orills and Drill Stocks. Riacksmiths' | Claw, Nos. 12 3. 9 dos 7.75 8.50 9.25 Lathing, Nos. 12 3. 9 dos 7.50 8.25 9.00 Hurd's. dis 45 % Shingling, Nos. 12 3. 9 dos 88.00 \$8.50 \$9.00 |
| · Staniey's Excelsior, No. 1, \$9.50dis 25&10 % | Union Spring Hinge Co.'sdis 25 % | Blacksmitths' self Feedings concerp, co. col 2 \ 5 \ Freast, Mileo | Hurd's |
| No.2, 4.80dis 25&10 % | American Spring Hinge Co.'sdis 24 % Union Mfg. Codis 24 % | Bartholomew'seach, \$2.50 dis as&to \$\% \text{Ratchet, Merrili's} \tag{dis 25} | Claw, Nos. 1 2 3 \$\frac{1}{2}\$ dos \$\frac{1}{2}\$ dos \$\frac{1}{2}\$ 0.00 \$\frac{1}{2}\$ 10.00 \$\frac{1}{2 |
| Axes. Light. Med. Heavy. M. H. Jones & Co\$5.00 \$8.50 \$9.00 \$\pi\$ doz net. | Bommer's | Hartholomew's each, 23.50 dis accios | Shinging, Nos. 12 3 |
| Floods 14.00 14.50 15.codis 35 \$ | " Palmer | Moore's Triple Actiondis 20 @ 25 \$ Whitney's Hand Drilldis 50 \$ | Simmon's |
| Common (Guy C. Hotchkiss, Field & Co.) | " Shepard's "Double Locking" Nos. 1 & Jdis 50&10 \$ | Wilson's Drill Stocks | Shingling, Nos. o 1 2 3 \$\forall \cdot \text{dos \$\forall \text{s}}\text{os \$\forall \text{dos \$\forall \text{s}}\text{os \$\forall \text{c}}\text{os \$\forall \text{c}\text{os \$\forall \text{c}}\text{os \$\forall \text{c}\text{os \$\forall \text{c}}os \$\fora |
| Axle Grense,—Frazer's # B 60 | " Shepard's "Noiseless," Nos. 50 26 52 | Danbury | Shingling Nos 122 Widos Shoo Shoo S700 |
| Baiances. Balancesdis 20210 % | " Nicholson | Dover gross, \$42.00; dos \$4.00 net | Lathing, Nos. 1 2 3 |
| 11-11- | " Clark's, Nos. 1, 3, 5, 40 and 45dis 50&10 \$ " Sarwent's No. 12 | National | Hay Kaives. # dos \$20.00 net Wadsworth 5. dis 23% \$ |
| Hand, Light Brass | New Pins. | Mill E. Buckets, light, 35% to 10 in. (Puc's Improved) \$1 00 \$15.00 6 \$45.00, net Mill E. Buckets, heavy, 5 to 10 inches (Duc's Improved) \$4 00 \$5.00 \$5.00, net Storehouse, (Duc's Patent) 12 to 17, \$13.00 @ \$20.00net | |
| White Metaldis 60&4&10 % | Rotchkiss' | ₩ dos \$5,60 @ \$10,20, net Storehouse, (Due's Patent) 12 to 17, \$12.00 @ \$20,00net | # Hanges. Gate, Western |
| Globe (Cone's Patent) | Butchers' Cleavers. Humason & Beckley Mfg. 60, dis 25 5 | Genuine Chester — Regular Nos | Gate, Clark's No. 1 |
| Yankeedis 30&10 % | Bradley's | | Automatic W dos \$i.5,0 dis 40 \$ Common Sonse dis 10 \$i.5,0 dis 40 \$ Common Sonse dis 10 \$i.5,0 dis 40 |
| Crank Taylor'sdis soktokt % | Clan Openers. | Washington Mills—Hegular Nos. \$\frac{\pi}{\pi} \frac{\pi}{\pi} \frac{\pi}{\pin} \frac{\pi}{\pi} \frac{\pi}{\pi} \frac{\pi}{\pi} \frac{\pi}{\pi | Rolled Blind Hinges |
| Cone's | Messenger's Comet \$\psi\$ dos \$\psi\$.co. dis 3\psi \$American \$\psi\$ dos \$\psi\$.co. dis 7\psi \$Duplex \$\psi\$ dos \$\psi\$.co. dis 7\psi \$Duplex \$\psi\$ dos \$\psi_2\$.co. dis 7\psi \$Duplex \$\psi\$ dos \$\psi_2\$.7\psi dis 5\psi \$Poole \$\psi\$ dos \$\psi_2\$.0\psi dis 5\psi \$Poole \$\psi_2\$. | Hampden Emery Grain. Sc net Flour Sc net B. & A. Emery Paper. dis 20024 \$ | Rolled Plate |
| ver, Sargent's, new list Dec. '78 | Lyman's # dos #3.75, dis 20 % Poole # dos #3.75, dis 40 % | | Screw Hook and \$8, 10, 12 in., \$6.85 \$100 \$5 dis to \$ |
| " Japanned Leverdis 25&10 % | No. 5, Iron Handle | Kettles | Heavy Welded Hook { 8 to 12 in., \$6.85 \$100 \$ } dis 10 \$ |
| all, Brook's | Sarcine Scissor Que dos 85,00, dis 55,55 Star Que dos 85,00, dis 55,55 Sprague dis 56&10 \$ | Escutcheon Pins. dis 25 % Brass. dis 40% 4 % | Screw Hook and Eye |
| Call | Capx Verenssion, ₹ 1000. U. M. C., F. C. trimmed | Escutcheons. | |
| Western | G. D. & S. B | Bacutcheons. Door Lock. Same discounts as Door Locks Brass Thread dis 60k10 \$ Wood dis 25 \$ | Hees Solid Shank, C. S |
| * Featucky "Star" | G. D. & S. B | | Planters' |
| troducts Connine Kentucky, new list- | Musket, 1-to 60c 60c 61c 65c 61c 6 | Paucets. dis 40 S Fenn's Cork Stops. dis 40 S Star dis 40 S Frany's Fatent Petroleum. dis 40 S Wood and Metallic dis accio S Wood and Metallic dis accio S | Hick's Pat. Solid C. S. Planters' dis 20&10 @ 30 % |
| Nos. 1 114 2 3 4 5 0 Hog 2 dis 811.00 10.00 900 8.00 6.00 5.00 3.50 2.50 5.00, 5 Yaw's Gebuine | Cartridges Metallic | West's Patent Key. dis 45 € Metallic Key. Leather Lined. dis 40 € Cork Lined. dis 70 € Enterprise (Seif Measuring). doz, \$36,00, dis 20 € | Winsted & Lane, Planters |
| Texas | Cotton | Cork Lined | Bird Cage, Sargent's list |
| Hellown. | Connet his retcheva. | Felloe Pintes & B 150, dis 55 | Cotton, Patented (N. Y. Mallet & Handle Wks), dis 30 % Cotton (Humason & Beckley Mfg. Co.) |
| Blacksmiths', Common | Cast Steel, Polished | Files | Bird Cage, Sargent's list |
| Moulders | Casters dis 3c&10 % | Nicholson | "Skinner's. \$6.25 per doz. dis 20 % Clothes Line Sargent's list. dis 60&10 \$ |
| Helting. Rubber. N. Y. Belting and Packing Conew list net | | J. & Riley Carr 4.50 to £ | " Reading list |
| ote dialdows | Cattle Leaders. Hotchkiss' Sons' | Jonnson & 5r0. Sutcher's pencer & Co.'s "Diamond" | Ceiling Sargent's inst |
| Extension, Barber's. | Chass. Trace, 05-1 -2 @ pair 790) | Moss & Gamble | Tassel (T. & S. Mfg. Co.)dis 40 % |
| Blind Adusters.—Domestic doz \$24.00 dis 40 % | 1 | Western (new list) | Staples, Stanley's list |
| Mackreil'sdis 30 % | " Coll. New list Oct. 22, '79 | Fluting Machines. | Whiffletree—Patent dis 45 Hooks and Eyes—Malleable Iron. dis 65 River Hooks and Eyes—Malleable Iron. dis 60 River Hrass. dis 60 River Hrass |
| FLH Sand'sNo. 2000, per gross, \$0.00 net | Oneida Haiter Chan | " 0 " " Eco " \ | |
| Washburn's Patent gross \$9.00 net | Chalk. | Eagle, 3%-inch Roll | Ausable |
| Mackrell's & doz. pairs, so.os, dis. ic a | White. | Eureka, No. 1, 7-inch Roll | Polished " 310 280 260 250 240 230 |
| Blind Staples. Barbed, Min. and larger | White Crayons | Peerless, 4-inch Rolls. 4-00 such net 4-70 such net 2-70 such net 5-70 such 18-30 such 1 | Polished or Blued " 31e 28e 26e 25e 24e 23e |
| # 36 in | Socket Framing, Crossman | American, 5 in., \$3; 6 in., \$3.40; 7 in., \$4.50 each, dis 10 % Domestic Fluter | H. P. Pointed and (26 23 210 200 190 180 |
| Differential Pulley Blocks | Buck Bros. Leve list, dis 24, 8 | Crown Hand Fluter, Nos. 1, \$14.00; 2, \$12.50; 3, \$10.00 \$ dozdis 10 % | Finished |
| " " all steel roll'r.dis 10 % | " Buck Bros new list dis 255" " Merrill dis 705" | No. 100, \$0.00 \text{\ti}\text{\texi{\text{\texi{\text{\texi\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\text{\texi}\text{\text{\ti}\text{\text{\text{\text{\texi}\text{\text{\text{\texi}\text{\texi}\text{\texi}\text{\texi}\text{\text{\texi}\text{\texin | Putnam Hammer, Ptd 28 25 23 22 21 200 10 % |
| " " Sheaves " " dis 35 % Ptanley R. & L. Co., Rope and Iron Strap'd. dis 35&10 % | " Merrill dis 70 % " Witherby Tool Co. dis 70 % " Douglass" dis 0545 % " Corner dis 65 | Clark's Hand Fluter | Herse Shees.—Burden. ** keg \$3. 62 R. I. Horse Shoe Co., Perkins' Improved Light, Medium and Heavy |
| 49-14- | Corner extra dia 35 Tanged Firmers extra dia 35 Butcher's \$5.00 gs \$4.25 to 2 \$ " Butcher's \$5.00 to 2 \$ " Buck Bros (Shauk) \$5.00 to 2 | Buffalo | Perkins Snow. 9 keg 5.12/6 |
| 2 Chattan &cdis 50&10 % | | Hay, Manure and Sp. ding new list, dis 15 % | National " B doz \$6.00 dis 45 % |
| Cast Iron Chain , Sargent's list) | Clamps. Iron, Providence Tool Co.'s, Wrt. Irondis 25 % | Piated" A I, Rogers & \$ro | |
| Cast Iron Barrel, Shutter, &c. Cast Iron Chain , Sargent's list) dis 65&10 \$ Bush's Lever and Chain Bolts dis 40 \$ Bush's Lever and Chain Bolts dis 40&10 \$ | " Adjustable, Gravia | Fruit mird Johly Fronness | Wood Hood Plake Sproont's & doz & Sc dishow tokin & |
| Bush's Lever and Chain Bolts dis 40&10 \$ W wought Barrel dis 40&10 \$ Square dis 40&10 \$ dis 40&10 \$ Square d | " Adjustable, Gray's | | Iron " doz 1.85, dis 60&10&10 % |
| Bush's Lever and Chain Bolts. V sought Barrel | " Adjustable, Gray's | Fry Pans. Rurnished, list as followsdis 5% | Iron Pick in Head. # doz 1.85, dis 60&10&10 % lee Mallets Pick in Head. # doz 1.75 net Pick in Handle # doz 3.00 net ice Axes Small. Cast or Malleable. # doz 1.20 net |
| Bush's Lever and Chain Bolts. V sought Barrel | Adjustable, Gray's dls zo 5 Lambert's dls zo 5 Snow's dls zo 6 Snow's dls zo 6 Hammer's dls zo 6 Cabinet, Sargent's dls co6 Carriage Makers', Bargent's dls co6 Cord and Tape (T. & S. Mig. Co.) dls zo 6 Cord and Tape (T. & S. Mig. Co.) dls zo 6 Cord and Tape (T. & S. Mig. Co.) dls zo 6 Carriage Makers', Bargent's dls co6 Carriage Makers', Bargent's dls co6 Carriage Makers', Bargent's dls zo 6 Carriage Makers', Barge | Fry Pans. Burnished, list as follows | lce Mallets Pick in Head. |
| Bush's Lever and Chain Bolts. V yought Barrel. dis qoâtic \$ Square dis optic \$ Shutter, all Iron, Stanley's list. dis 50 \$ Brass Knob. '.' dis 20210 \$ Brass Knob. '' dis 20210 \$ Sargent's list. dis 50210 \$ Sunk Flusn, Sargent's. dis 50210 \$ \$ Sankey's. dis 502 B.E.Flush. Com'n, Stanley's. dis 45% dis 45% | " Adjustable, Gray's dis 20 \$ " | Fry Pans. Rurnished, list as followsdis 5% | lee Mallets Pick in Head. \$\forall \text{dos 1.75 net} \\ Pick in Handle \$\forall \text{dos 3.00 net} \\ Ice Axes Small, Cast or Malleable .\forall \text{dos 1.00 net} \\ Kitchen ice Tongs \$\forall \text{dos 2.5 net} \\ Combination lee Tools \$\psi \text{dos 2.5 net} \\ Etilles \$\forall \text{dos 2.5 net} \\ Etilles \$\forall \text{dos 3.08 to 5} \\ Etilles |

| | esale Prices, De | 9 |
|-----------|--|-----------------------|
| | Cocks, Brass. dis 35 % Hacking dis 35 % Globe dis 35 % Plain Bibbs dis 35 % Ale and Beer dis 35 % | Na "I |
| | | Do |
| | Coffee Milis. Board and Box | Ti Fa |
| | | Ba |
| | Per dos \$1.00. dis 30 % | T. |
| | " Compasses & Californ | |
| | Excelsior. dis 50 % Muller's Patent. dis 25 % Coopers' Tools. Bradley's dis 15 % OS | F |
| | Corkscrews.—Humason & B | H. Ve Ma |
| | Cast Steel | Ki Co Ho |
| | Curling Irons, &c. dis 10 % ½, %, % in., \$1.80 2.00, 2.40 dis 10 % Curling 10ngs \$\psi\$ dox \$3.6c, dis 10 % Pinching Irons \$\psi\$ dox 7.50, dis 20 % Currer Combs. dis 20 % Pitch's (List of No. 240. \$1) dis 40 % Prochistar Novativ dis 20 % | Pr |
| | Lawrence. dls 40 % Lawrence, with detachable Mane Comb. dls 33/5 % Subber doz \$0.00, dls 20#10 % | 1 1 |
| | Curtain Plus.—Silvered Glass dis 15 % | Ro Br Ja |
| | Cutiery Meriden Cutiery Co. (Table) net | Ha W Su Flu |
| | Aaron Burkinsnaw's Pocket dis 25 Deg Cellars dis 20 Embossed Glit dis 20 Leather dis 20 Brass dis 25 Bear Springs | Sa Bo |
| | Door Springs | HI |
| | See Rod. | So. |
| | Gem (Coll- No. 1, Large, Japanued | Pa |
| | Nickeled | Ba |
| | No. 4, ("Snoo Fly") Screen door size \(\psi \) dos \(\frac{8}{2}.50 \) No. 5, Screen Door \(\frac{8}{2}.50 \) No. 6, \(\frac{1}{2}.50 \) No. 6, \(\frac{1}{2}.50 \) No. 7, \(\frac{1}{2}.50 \) No. 8, \(\frac{1}{2}.50 \) No. 8, \(\frac{1}{2}.50 \) No. 9, \(\frac{1}{2}.50 \) N | Ch Sta Ch Ki |
| | Galvanized. | He |
| | Barker's Coucealed. dls 20 5 Cowell'sNo. 1, \$18.00; No. 2, \$15.00 \$\(\) dos. dls 50 5 Rubber, complete. \$\(\) dos \$1.90, net | Ho An Sa |
| | Crossman v.No. | Co |
| | Witherby Tool Codis 70 5 | Hu |
| | Blacksmiths Reif Feeding | H |
| | Miller's Fails | M. |
| | Blacksmiths Belf Feedins each 87, 80, 619 25 Breast F. S W | Sin |
| | " Adjusteach \$10,0c, dis30 \$ | Co |
| | Rational per gross, \$42.00; don \$4.00 net | " |
| | Family | W G |
| | Storehouse, (Duc's Patent) 12 to 17, \$12.00 @ \$20.00net Kmery and Emery Paper. Genuine Chester—Regular Nos | G |
| | Emery and Emery Paper. Genuine Chester-Regular Nos | Re |
| | Flour. # 58 net Hampden Emery Grain 50 net Flour 50 net B. & A. Emery Paper dis 20624 \$ | ROW PI |
| | Sauce Pansdia 35&4 % | Sc He |
| - | Escutcheon Pins | Sc |
| | Bacutcheons. Door Lock | So Ri Gr |
| | Faucets- dis 40 \$ Fenn's dis 334 \$ Star dis 46510 \$ Star dis 46510 \$ Star dis 46510 \$ Star dis 46510 \$ Star Star | Pi Se Se Hi |
| | Pauceta dis 40 % | W |
| | | Bi Co Co Be |
| | Files. Auburn. Auburn. St.co to £. dis 35.5 Arcade. \$5.co to £. dis 35.5 G. & H. Barnett. St.co to £. dis 35.5 G. & H. Barnett. S | Be |
| - | Madden & Cockayne File Co. | CE |
| | Walter Spencer & Co.'s "Diamond" 4-50 to £ Fisher's 4-75 to £ Moss & Gamble 4-50 to £ H. Disston & Sons (new list) 432 te H. Disston & Sons (new list) 4-75 to £ | Taw |
| | Limet & Co. (French). 43.25 to 9. Lightning Files, c, 8 and 10 in. dis 30&10 % Fluting Machines. | W Gr W |
| | | H |
| | Eagle, 3½-inch Roll. \$2.15, dis 10 5 5.56 \$2.55, dis 10 5 Eureka, No. 1, 7-inch Roll. \$0.00 each, dis 10 5 No. 2 4-inch Holl \$4.00 each, dis 10 5 | As |
| 22.00 | Crown . 4%-in. \$3.50;6-in. \$4.00;8-in. \$6.50 each dis to \$5 star 4½ in., \$4.00; 6 in., \$5.00 each dis to \$7 crown Jewel 6 in., \$5.40 each, dis to \$7 American, 5 in., \$5;6 in., \$3.40; 7 in., \$4.50 each, dis to \$7 Deposed in Flute \$5;6 in., \$3.40; 7 in., \$4.50 each, dis to \$7 Deposed in Flute \$7.50 each, dis to \$7 deposed in Flute \$8.50 each, dis to \$8 deposed in Flute \$8.50 each | No Br Po |
| | 1.00 case in let | H. |
| THE WORLD | Peerless, 4-inch Rolls | Pi R. |
| | MA - material | Pe |
| La Value | Hay Maure and Sp./ling new list, dis 1.5 | N N W D |
| | Fry Fans. Burnished, list as follows | Ir Ic |
| 8 | Acme Patent, same list as abovedis 40% \$ | K |

| | _ |
|--|------------------|
| Gimlets. dis 50 % Sail and Spike. dis 50 % See "Gimlets. # gross \$12.00 dis 60&10 % Eureka "Gimlets. dis 50 % Diamond "Gimlets. dis 40 % Outsie Cus Shepardson's dis 40 % " " Hartwell's. dis 50 % " " Tres" dis 50 % " " Douglass". dis 40 % | AMH |
| " Ives" dis 50 % " Douglass" dis 40% Glue Pets. "Inned and Enameled dis 35&5 % amily, Howe's "Eureka" dis 40 % L. F. & C. " "Handy dis 25 % | CBHD |
| L F. & C's "Handy dis 25 8 Grindstone Fixtures. dis 60&10% argent's Patent. dis 25&10 % teading Hardware Co "Keystone" dis 2336&10 % | F |
| Gun Wads. J. M. C. B. E. 11 up. \$2.00 " 7 & 8 2.00 " P. E. 11 up. 3.10 " 9 & 11 4.00 " 9 & 11 4.00 " 9 & 11 4.00 " 9 & 11 4.00 " 9 & 14 4.00 " 1 4.00 " 2 & 1.00 4.90 | HSI |
| L Maydole's, Rew List of Dec. 10ts, 1970 that 18 78 hence's, List January, 70. dis 25 8. Hammonds dis 20 8 erree. dis 2 4 sagnetic Tack, Nos. 1, 2, 3, \$1.25, 1.50 and 1.74 dis 25 8 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 | T HPBAYDPC |
| Halters. dis 50 % lovert's Pat. Rope. dis 50 % lorse and Cattle Ties. Covert's dis 50 % Hand Cuffs and Leg Irons. Providence Tool Co.'s Hand Cuffs, \$15.00 \(\pi \) dis 10 % leg Irons, \$25 \(\pi \) dos. dis 50 % dis 25 | PEDST |
| dis 25 | C Si |
| Nos. | Ti |
| oynton's Pat. Loop Saw Handles | BY "PF |
| Centennial Saw Handles | BNNYKM |
| # Bwan's. | P |
| Simax (Anti-Friction) dis 65&10 6 | I |
| Indrews' dis to \$ argent's dis 60&10 % German dis 55&2 % dis 40 % | MP |
| Hatchets. alah Blood. Shingling, Nos. 1 2 5. | H D A |
| Lathing. Nos. 1 2 5. \$\psi\$ dos \$7.00 \$0.00 \$0.00 \$1.20 \$2.50 \$5.00 \$1.20 \$2.50 \$5.00 \$1.20 \$2.50 \$5.00 \$1.20 \$2.50 \$5.00 \$1.20 \$2.50 \$5.00 \$1.20 \$2.50 \$2.5 | A |
| Shingling, Nos. o 1 2 3 # dox #7.50 #8.00 #8.50 #9.00 Claw, Nos. 1 2 3 # dox #0.00 9.50 10.00 Lathing, Nos. 1 2 3 # dox #0.00 12.00 12.00 14.00 Broad, Nos. 1 2 3 4 # dox #0.00 10.00 12.00 14.00 | CBLV |
| Shinging, Nos. 1 2 3 # dos a.c. #4.09 #.00 F.00 #7.00 Claw Nos. 1 2 3 # dos 6.00 6.00 7.00 T.50 Lathing, Nos. 1 2 3 # dos 6.00 6.50 7.00 Hay Knives. | TOHY TH |
| Wadsworth | T UN BO |
| ** Shepard's. Nos. 10, 20 & 24, dis 45 & Solled Bind Hinges | BMP |
| 14 to 36 ln., \$5.55 to 00 b | D N B |
| Hora, Solid Shank, C. S. F doz \$5,25, dls 15 \$ locket F doz 5,75, dls 15 \$ locket F doz 5,75, dls 15 \$ liveted Shank F doz 3,25 dls 26 \$ liveted Shank F doz 3,25 dls 2,25 dls 2,25 dls 2,25 \$ liveted Shank F doz 3,25 dls 2,25 dls 2,25 \$ liveted Shank F doz 3,25 dls 2,25 dls 2 | P |
| Coviii Pattern, Handled. dis 24 5 dick's Pat, Solid C. S. Planters dis 206x 10 6 30 5 dick's Pat, Solid C. S. Planters dis 206x 6 34 5 dis 206 20 6 34 5 dis 206 20 6 3 5 dis 206 20 6 3 5 dis 206 20 6 6 dis 206 20 5 dis 2 | MAC |
| Hooks | M B T B D P |
| Samuel Same Samuel Sam | В |
| Hoeks. irid Cage, Bargent's list | HHGERP |
| usable | n s c |
| C | S |
| olinted and Fonshed) | J.P SE |
| National. Pointed and Polished, Pat. Fin 28 25 23 22 21 200 net | SFV LE |
| # keg \$3. 62 2. I. Horse Shoe Co., Perkins' improved Light, Medium and Heavy. \$2 keg 4.12\(\frac{1}{2}\) while the Shoe Shoe Shoes \$4 keg 4.12\(\frac{1}{2}\) while Shoes \$4 keg 4.05\(\frac{1}{2}\) while \$4 keg 4.05\(\frac{1}{2}\) | B |
| Perkins Snow. \$ 800 4.02\$ Loc Awis, Chisels. \$ doz. \$6.00 dis 45.5 American Ice Chisel. \$ doz. \$6.20 dis 25.7 National. \$ doz. \$6.22 dis 25.7 Novelty Ice Breakers. \$ doz. \$6.24 dis 25.7 White's Sliding Head Picks. \$ doz. \$6.20 dis 45.7 Punlap's Ring Picks. \$ doz. \$8.30.0 dis 45.7 Wood Head Picks, Sargent's \$ doz. \$1.85, disbockroon. \$ cor. ron \$ doz. \$1.85, disbockroon. ce Mallets Pick in Head. \$ doz. \$2.5 net. | DE |
| Wood fread Picks, Sargent's 7 doz \$1.85, disocitos're 7 fron 6 doz 1.85, disocitos're 7 fron 18 doz 1.85, disocitos're 8 fread 1.85, disocitos're 18 fread 1.85, disocitos're 18 fread 1.85, doz 1.75, net 7 frek in Handle 18 doz 1.00 at 1.00 free Axes Small, Cast or Malleable 20 doz 1.20 net 8 free frongs 20 free 18 fr | H J B J |

| 0% | Moran's Shoe and Bread Knivesdis 20 % |
|--|--|
| 10% | " Bread # doz \$1.50, dis 15 \$ Moran's Shoe and Bread Knives |
| 40% | Knobs. Carriage (Jap'd 8oc. \(\P\) gross) dis 50&70 % Base—Common |
| 4 % | Hemacite Door KnobsNew list, dis 3525 5 |
| 10% | Hemacite Door Knobs |
| 15 % | " " Plated |
| Mon | Wood Screwsdis 20 % |
| 10 % | Picture (T. & S. Mrg. Co.) |
| | Shutter, Porcelain |
| 5,8 | Melting—Sargent'sdis socres |
| 9 70 | ndies, Melting-Sargent's dis 50% to 5 Melting-Sargent's dis 50% to 5 Melting-Sargent's dis 20% to 5 Monroe's Patent do \$4.00, dis 25 % Lanterus. |
| | Lauterus |
| 15% | Hurricanedis 25 % |
| 15 % | Peerless |
| 5% | Ætnadis 10&10 % Yankeedis 10&10 % |
| 8 01 | De Beque |
| 50 % | Yankee |
| 0 % | Porcelain Lined |
| | Dunlap's Improved & doz \$4.00 net Sammis'No. 1. \$7.00; No. 2. \$12.00 & doz., dis 55 \$ |
| 5% | Townsend's Patent |
| - | Cotton Chalk |
| 0 % | \$7.50 |
| net | Wire Clothes, Galvanizedeach 30 66 40c net |
| net | Cabinet—Eagle) Reduction in list of some |
| 0% | Bridgeport.) |
| 0% | Trunk |
| 200 | Round Key, No. 1 to 5dis 50&10 % |
| 0% | Flat Keydis 3356 10 % |
| 10% | Yale Lock Co., Flat keydis 40 % |
| | "Felter" or "American"dis 33% \$ |
| | F. Many's "Extension Cylinder"\$10.50 # doz. net |
| B 0 % | Branferd |
| | Mason's Linen |
| 08 | Norwich P. & F. Corbin New list, Dec. 15, 1879. dis code 2 % Mallory. Wheeler & Co |
| 20% | Kusseli & Erwin |
| | Padlocks-Hussell & Erwin dis 10&5 6 |
| 0% | Wm. Wilcox & Co and 2 % for cash |
| 5% | Romer'sdis so |
| 08 | "Yale Lock Mfg. Co.'s "Standard"dis 40 5 "Romer's |
| 08 | Mailets.—Hickory and Lignumvitesdis tokto |
| 2 % | Ment Cutters. |
| 2 % | Ment Cutters. Dixon's (P. S. & W.), Nos. 1 2 3 4 Miles' Challenge & dos. \$14.00 17.00 19.00 30.00—dis 25 % Miles' Challenge & dos. \$82.00 50.00 40.00—dis 30 % Perry's Nos. 1 2 3 4 4 2 7d 5 grd 6 5 grd Each \$8.00 0.00 50 11.00 15.00 50.00 dis 7.8 to Woodruff's (P. S. & W.), Nos. 1 0.00 10.00 50.00 dis 7.8 to Woodruff's (P. S. & W.), Nos. 1 0.00 10.00 50.00 dis 7.8 to Hales' Nos. 1 1 2 13 \$6 dos. \$85.65 44.60 \$81.00 11.00 15.00 dis 9.8 to Each. \$65.00 75.00 80.00 25.00 490.00—dis 20 \$ American |
| 08 | Miles' ChallengeNos. 1 2 3 ** doz\$22.00 30.00 40.00—dis 30 % |
| 25 | Perry's Nos. 1 2 3 4 4 g'rd 5 g'rd Each83.00 4.00 5.00 11.00 13.00 30.00 dls 3: 8:30 |
| 0 % | Woodruff's (P. S. & W.)Ncs. 100 150 18.00—dis 30&10 5 |
| 5 % | Hales'Nos. 11 12 13 44.40 56.60dis 40&2&10 % |
| 15 | Esch \$50.00 75.00 80.00 225.00 480.00—dis 20 5 |
| 5 8 | American |
| 15 | Silver & Deming |
| 15 % | Mincing Knives. Am., 1 blade, \$12: 2 blades, \$21: 3 blades, \$30 per gross. Lathrop's. Smith's. dis 24 \$1.5 smith's. per dos \$1.75, dis 10 \$1.5 smith's. |
| 00 - | gross |
| 0% | Smith's per dos \$1,74, dis 10 5 **Riolasses Gates.** Stebbins Pattern. dis 5,5\$210 5 Stebbins Pattern. dis 5,5\$210 5 Genuine dis 6,5\$210 5 Tinned Ends dis 6,5\$210 5 Chase's Hard Metal dis 4,5\$210 5 Lincolu s Genuine. dis 5,5\$210 Need's dis 12 Nais See Trade Report Nuts de 7,0 11st Washers. de off list Washers. de off list Washers. de off list Washers. de off list Nut Crackers |
| 0 % | Molasses Gates. Stebbins Patterndis 55&10 % |
| 35 % | Genuinedis 55%&10 % |
| 10 | Chase's Hard Metaldis scatto % Bush'sdis 20 % |
| 00 | Lincolu s Genuinedis 45&10 % Weed's dis 14 % |
| 10 % | Natis See Trade Report |
| 50 | Square Nuts |
| net | Washers 6c off list |
| 58 | Nat Crackers Table (Humason & Beckley Mfg. Co.)dis 33½ \$ Hake's Patters. Turner & Seymour Mfg. Co |
| 10 % | Turner & Seymour Mfg. Codis 40 % |
| 10 % | Onkum. Bent n noise |
| | |
| IO % | U. S. Navy |
| 0% | U. S. Navy \$ 10 50 60 |
| 0% | U. S. Navy |
| 0% | U. S. Navy |
| 10 10 10 10 10 10 10 10 10 10 10 10 10 1 | U. S. Navy W B 9% |
| 10 10 10 10 10 10 10 10 10 10 10 10 10 1 | Oakum. P b 10/sc |
| ************************************** | U. S. Navy |
| 10 10 10 10 10 10 10 10 10 10 10 10 10 1 | U. S. Navy |
| ************************************** | Faber's Carpenters' High list, dis cokto 5 Round Gill Sgross \$2,5 net Dixon's Lead. F gross 4,6 net Lumber Packing. Steam: Packing. Steam: V Butter and Packing Co. new list net |
| ************************************** | Faber's Carpenters' High list, dis cokto 5 Round Gill Sgross \$2,5 net Dixon's Lead. F gross 4,6 net Lumber Packing. Steam: Packing. Steam: V Butter and Packing Co. new list net |
| | Faber's Carpenters' High list, dis cokto 5 Round Gill Sgross \$2,5 net Dixon's Lead. F gross 4,6 net Lumber Packing. Steam: Packing. Steam: V Butter and Packing Co. new list net |
| 10000000000000000000000000000000000000 | Faber's Carpenters' High list, dis cokto 5 Round Gill Sgross \$2,5 net Dixon's Lead. F gross 4,6 net Lumber Packing. Steam: Packing. Steam: V Butter and Packing Co. new list net |
| | Faber's Carpenters. High list, dis cokto 5 Round Gill Sgross \$2.5 net Dixon's Lead. Fgross \$.6 net Lumber Fgross 6.75 net Packing, Steam. N. Y. Beiting and Packing Co. new list net Picture Nalis. Brass Head. Skrgent's List. dis 44&to 5 Porcelain Head. Sargent's List. dis 45.5 Porcelain Head. Sargent's List. dis 45.5 Porcelain Head. T. & S. Mfg. Co. dis 30.5 Porcelain Head. T. & S. Mfg. Co. dis 30.5 Pinking Irons. # dox 75.0 net |
| ************************************** | Faber's Carpenters. High list, dis cokto 5 Round Gill Sgross \$2.5 net Dixon's Lead. Fgross \$.6 net Lumber Fgross 6.75 net Packing, Steam. N. Y. Beiting and Packing Co. new list net Picture Nalis. Brass Head. Skrgent's List. dis 44&to 5 Porcelain Head. Sargent's List. dis 45.5 Porcelain Head. Sargent's List. dis 45.5 Porcelain Head. T. & S. Mfg. Co. dis 30.5 Porcelain Head. T. & S. Mfg. Co. dis 30.5 Pinking Irons. # dox 75.0 net |
| THE PROPERTY OF STREET STREET, | Faber's Carpenters High list, dis cokto 5 Round Gill |
| SOCIETA SERVICE SERVICE SOCIETA SERVICE SOCIETA SERVICE SOCIETA SERVICE SERVICE SERVICE SERVICE SERVICE SERVICE SOCIETA SERVICE SERVIC | Faber's Carpenters. High list, dis cokto 5 Round Gill Sgross \$2.5 net Dixon's Lead. Fgross \$.6 net Lumber Fgross \$.6 net Packing, Steam. N. Betting and Packing Co. new list net Picture Nglis. Brass Head, Skrigent's List. dis 45kro 5 T. & S. Mig. Co. dis 40 5 Porcelain Head, Sargent's List. dis 45kro 5 Porcelain Head, Sargent's List. dis 30 8 Porcelain Head. T. & S. Mig. Co. dis 30 8 Pluking Froms. Ø dox 750. net Pinling Machines. Magic Astor Plaiting Machine each \$15.00, net Astor Plaiting Machine each \$15.00, dis 20 5 Crown Plaiting Machine dis 50.00 each |
| | Faber's Carpenters. High list, dis cokto 5 Round Gill Sgross \$2.5 net Dixon's Lead. Fgross \$.6 net Lumber Fgross \$.6 net Packing, Steam. N. Betting and Packing Co. new list net Picture Nglis. Brass Head, Skrigent's List. dis 45kro 5 T. & S. Mig. Co. dis 40 5 Porcelain Head, Sargent's List. dis 45kro 5 Porcelain Head, Sargent's List. dis 30 8 Porcelain Head. T. & S. Mig. Co. dis 30 8 Pluking Froms. Ø dox 750. net Pinling Machines. Magic Astor Plaiting Machine each \$15.00, net Astor Plaiting Machine each \$15.00, dis 20 5 Crown Plaiting Machine dis 50.00 each |
| SECTION OF STREET STREE | Faber's Carpenters. High list, dis cokto 5 Round Gill Sgross \$2.5 net Dixon's Lead. Fgross \$.6 net Lumber Fgross \$.6 net Packing, Steam. N. Betting and Packing Co. new list net Picture Nglis. Brass Head, Skrigent's List. dis 45kro 5 T. & S. Mig. Co. dis 40 5 Porcelain Head, Sargent's List. dis 45kro 5 Porcelain Head, Sargent's List. dis 30 8 Porcelain Head. T. & S. Mig. Co. dis 30 8 Pluking Froms. Ø dox 750. net Pinling Machines. Magic Astor Plaiting Machine each \$15.00, net Astor Plaiting Machine each \$15.00, dis 20 5 Crown Plaiting Machine dis 50.00 each |
| | Faber's Carpenters. High list, dis cokto 5 Round Gill Sgross \$2.5 net Dixon's Lead. Fgross \$.6 net Lumber Fgross \$.6 net Packing, Steam. N. Betting and Packing Co. new list net Picture Nglis. Brass Head, Skrigent's List. dis 45kro 5 T. & S. Mig. Co. dis 40 5 Porcelain Head, Sargent's List. dis 45kro 5 Porcelain Head, Sargent's List. dis 30 8 Porcelain Head. T. & S. Mig. Co. dis 30 8 Pluking Froms. Ø dox 750. net Pinling Machines. Magic Astor Plaiting Machine each \$15.00, net Astor Plaiting Machine each \$15.00, dis 20 5 Crown Plaiting Machine dis 50.00 each |
| TO SECOND | Faber's Carpenters. High list, dis cokto 5 Round Gill Sgross \$2.5 net Dixon's Lead. Fgross \$.6 net Lumber Fgross \$.6 net Packing, Steam. N. Betting and Packing Co. new list net Picture Nglis. Brass Head, Skrigent's List. dis 45kro 5 T. & S. Mig. Co. dis 40 5 Porcelain Head, Sargent's List. dis 45kro 5 Porcelain Head, Sargent's List. dis 30 8 Porcelain Head. T. & S. Mig. Co. dis 30 8 Pluking Froms. Ø dox 750. net Pinling Machines. Magic Astor Plaiting Machine each \$15.00, net Astor Plaiting Machine each \$15.00, dis 20 5 Crown Plaiting Machine dis 50.00 each |
| TO SECURE AND THE PROPERTY OF SECURE AND THE PRO | Faber's Carpenters. High list, dis cokto 5 Round Gill Sgross \$2.5 net Dixon's Lead. Fgross \$.6 net Lumber Fgross \$.6 net Packing, Steam. N. Betting and Packing Co. new list net Picture Nglis. Brass Head, Skrigent's List. dis 45kro 5 T. & S. Mig. Co. dis 40 5 Porcelain Head, Sargent's List. dis 45kro 5 Porcelain Head, Sargent's List. dis 30 8 Porcelain Head. T. & S. Mig. Co. dis 30 8 Pluking Froms. Ø dox 750. net Pinling Machines. Magic Astor Plaiting Machine each \$15.00, net Astor Plaiting Machine each \$15.00, dis 20 5 Crown Plaiting Machine dis 50.00 each |
| TO SECURIO SE | Faber's Carpenters. High list, dis cokto 5 Round Gill Sgross \$2.5 net Dixon's Lead. Fgross \$.6 net Lumber Fgross \$.6 net Packing, Steam. N. Betting and Packing Co. new list net Picture Nglis. Brass Head, Skrigent's List. dis 45kro 5 T. & S. Mig. Co. dis 40 5 Porcelain Head, Sargent's List. dis 45kro 5 Porcelain Head, Sargent's List. dis 30 8 Porcelain Head. T. & S. Mig. Co. dis 30 8 Pluking Froms. Ø dox 750. net Pinling Machines. Magic Astor Plaiting Machine each \$15.00, net Astor Plaiting Machine each \$15.00, dis 20 5 Crown Plaiting Machine dis 50.00 each |
| TO A CONTROL OF THE RESIDENCE OF THE PROPERTY | Faber's Carpenters'. High list, dis cokto 5 Round Gill Sgross \$2.5 net Dixon's Lead. \$\pi\$ gross \$.5.5 net "Lumber \$\pi\$ gross \$.5.5 net Packing, Steam. N. Heltung and Packing Co. new list net Picture Nalls. Brass Head. Strgent's List. dis \$4.50 to \$5 Porcelain Head. Sargent's List. dis \$5 Porcelain Head. Sargent's List. dis \$9.5 Porcelain Head. Sargent's List. dis \$9.5 Pinking Irons. \$\pi\$ dox \$5.00. net Piniting Machines. \$\pi\$ dox \$5.00. net Astor Piniting Machines. \$\pi\$ dox \$5.00. net Astor Piniting Machines. dis \$9.5 Pinking Irons. \$\pi\$ dox \$1.00. net Astor Piniting Machines. dis \$9.5 Oils. \$0.00. dis \$9.5 Oils. \$9.5 Oils. \$0.00. dis \$9.5 Oils. |
| TO SOUTH TO SOUTH TO SOUTH THE SOUTH | Faber's Carpenters'. High list, dis cokto 5 Round Gill Sgross \$2.5 net Dixon's Lead. \$\pi\$ gross \$.5.5 net "Lumber \$\pi\$ gross \$.5.5 net Packing, Steam. N. Heltung and Packing Co. new list net Picture Nalls. Brass Head. Strgent's List. dis \$4.50 to \$5 Porcelain Head. Sargent's List. dis \$5 Porcelain Head. Sargent's List. dis \$9.5 Porcelain Head. Sargent's List. dis \$9.5 Pinking Irons. \$\pi\$ dox \$5.00. net Piniting Machines. \$\pi\$ dox \$5.00. net Astor Piniting Machines. \$\pi\$ dox \$5.00. net Astor Piniting Machines. dis \$9.5 Pinking Irons. \$\pi\$ dox \$1.00. net Astor Piniting Machines. dis \$9.5 Oils. \$0.00. dis \$9.5 Oils. \$9.5 Oils. \$0.00. dis \$9.5 Oils. |
| TO A CONTROL OF THE RESIDENCE OF THE RES | Faber's Carpenters'. High list, dis cokto 5 Round Gill Sgross \$2.5 net Dixon's Lead. \$\pi\$ gross \$.5.5 net "Lumber \$\pi\$ gross \$.5.5 net Packing, Steam. N. Heltung and Packing Co. new list net Picture Nalls. Brass Head. Strgent's List. dis \$4.50 to \$5 Porcelain Head. Sargent's List. dis \$5 Porcelain Head. Sargent's List. dis \$9.5 Porcelain Head. Sargent's List. dis \$9.5 Pinking Irons. \$\pi\$ dox \$5.00. net Piniting Machines. \$\pi\$ dox \$5.00. net Astor Piniting Machines. \$\pi\$ dox \$5.00. net Astor Piniting Machines. dis \$9.5 Pinking Irons. \$\pi\$ dox \$1.00. net Astor Piniting Machines. dis \$9.5 Oils. \$0.00. dis \$9.5 Oils. \$9.5 Oils. \$0.00. dis \$9.5 Oils. |
| | Faber's Carpenters'. High list, dis cokto 5 Round Gill Sgross \$2.5 net Dixon's Lead. \$\pi\$ gross \$.5.5 net "Lumber \$\pi\$ gross \$.5.5 net Packing, Steam. N. Heltung and Packing Co. new list net Picture Nalls. Brass Head. Strgent's List. dis \$4.50 to \$5 Porcelain Head. Sargent's List. dis \$5 Porcelain Head. Sargent's List. dis \$9.5 Porcelain Head. Sargent's List. dis \$9.5 Pinking Irons. \$\pi\$ dox \$5.00. net Piniting Machines. \$\pi\$ dox \$5.00. net Astor Piniting Machines. \$\pi\$ dox \$5.00. net Astor Piniting Machines. dis \$9.5 Pinking Irons. \$\pi\$ dox \$1.00. net Astor Piniting Machines. dis \$9.5 Oils. \$0.00. dis \$9.5 Oils. \$9.5 Oils. \$0.00. dis \$9.5 Oils. |
| TO A CONTROL OF THE PROPERTY O | Faber's Carpenters'. High list, dis cokto 5 Round Gill Sgross \$2.5 net Dixon's Lead. \$\pi\$ gross \$.5.5 net "Lumber \$\pi\$ gross \$.5.5 net Packing, Steam. N. Heltung and Packing Co. new list net Picture Nalls. Brass Head. Strgent's List. dis \$4.50 to \$5 Porcelain Head. Sargent's List. dis \$5 Porcelain Head. Sargent's List. dis \$9.5 Porcelain Head. Sargent's List. dis \$9.5 Pinking Irons. \$\pi\$ dox \$5.00. net Piniting Machines. \$\pi\$ dox \$5.00. net Astor Piniting Machines. \$\pi\$ dox \$5.00. net Astor Piniting Machines. dis \$9.5 Pinking Irons. \$\pi\$ dox \$1.00. net Astor Piniting Machines. dis \$9.5 Oils. \$0.00. dis \$9.5 Oils. \$9.5 Oils. \$0.00. dis \$9.5 Oils. |
| NO COLUMNO COL | Faber's Carpenters |
| | Faber's Carpenters |
| MAG CO | Faber's Carpenters |
| TO THE PROPERTY OF THE PROPERT | Faber's Carpenters |
| MAC CONTROL OF CONTR | Faber's Carpenters |
| 1892年18日 1893年 18 | Taber's Carpenters. High list, dis cokto 5 Round Gill Sgross \$2.5 to 15 Dixon's Lead Fgross \$2.5 to 15 Lumber Bound Fgross \$2.5 to 15 Lumber Fgross \$2.5 to 15 Lumber Fgross \$2.5 to 15 Packing. Steam. N. Heitung and Packing Co. new list net Picture Nalls. Frass Head. Sargent's List. dis 425 to 5 Porcelain Head. Sargent's List. dis 425 to 5 Porcelain Head. Sargent's List. dis 50 is 60 is 7 Porcelain Head. Sargent's List. dis 50 is 60 is |
| SAMON COMPANY OF THE SECOND COMPANY OF THE S | Taber's Carpenters. High list, dis cokto 5 Round Gill Sgross \$2.5 to 15 Dixon's Lead Fgross \$2.5 to 15 Lumber Bound Fgross \$2.5 to 15 Lumber Fgross \$2.5 to 15 Lumber Fgross \$2.5 to 15 Packing. Steam. N. Heitung and Packing Co. new list net Picture Nalls. Frass Head. Sargent's List. dis 425 to 5 Porcelain Head. Sargent's List. dis 425 to 5 Porcelain Head. Sargent's List. dis 50 is 60 is 7 Porcelain Head. Sargent's List. dis 50 is 60 is |
| SAME TO CONTRACT T | Taber's Carpenters. High list, dis cokto 5 Round Gill Sgross \$2.5 to 15 Dixon's Lead Fgross \$2.5 to 15 Lumber Bound Fgross \$2.5 to 15 Lumber Fgross \$2.5 to 15 Lumber Fgross \$2.5 to 15 Packing. Steam. N. Heitung and Packing Co. new list net Picture Nalls. Frass Head. Sargent's List. dis 425 to 5 Porcelain Head. Sargent's List. dis 425 to 5 Porcelain Head. Sargent's List. dis 50 is 60 is 7 Porcelain Head. Sargent's List. dis 50 is 60 is |
| 10 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Taber's Carpenters. High list, dis cokto 5 Round Gill Sgross \$2.5 to 15 Dixon's Lead Fgross \$2.5 to 15 Lumber Bound Fgross \$2.5 to 15 Lumber Fgross \$2.5 to 15 Lumber Fgross \$2.5 to 15 Packing. Steam. N. Heitung and Packing Co. new list net Picture Nalls. Frass Head. Sargent's List. dis 425 to 5 Porcelain Head. Sargent's List. dis 425 to 5 Porcelain Head. Sargent's List. dis 50 is 60 is 7 Porcelain Head. Sargent's List. dis 50 is 60 is |
| SECTION OF THE PROPERTY OF THE | Taber's Carpenters. High list, dis cokto 5 Round Gill Sgross \$.5,0 net Dixon's Lead Pgross \$.5,0 net "Lumber Stream." N. Heitung and Packing Co. new list net Picture Nalls. Brass Head. Strgent's List. dis 4c&to 5 Porcelain Head. Sargent's List. dis 4c&to 6 Porcelain Head. Sargent's List. dis 4c&to 6 Porcelain Head. Sargent's List. dis 50.5 Pinking Frons. Go. dis 25 Pinking Frons. Go. dis 25 Pinking Frons. Go. dis 25 Pinking Irons. |
| NAMES OF THE PROPERTY OF THE P | Taber's Carpenters. High list, dis cokto 5 Round Gill Sgross \$.5,0 net Dixon's Lead. \$\$ gross \$.5,0 net "Lumber \$\$ gross \$.5,5 net Packing, Steam. N. Beitung and Packing Co. new list net Picture Nalis. Brass Head. Sirgent's List. dis 45% to 5 Porcelain Head. Sargent's List. dis 45% to 5 Porcelain Head. Sargent's List. dis 45% to 5 Porcelain Head. T. & Mfg. Co. dis 45 percelain Head. Sargent's List. dis 50 percelain Head. Sargent's List. dis 50 percelain Head. T. & Mfg. Co. dis 35 percelain Head. T. & Mfg. School Head. T. & Mfg. Co. dis 15 percelain Head |
| NAMES OF THE PROPERTY OF THE P | Taber's Carpenters. High list, dis cokto 5 Dixon's Lead. F gross \$.5,0 net "Lumber Form Figures \$.5,0 net Packing. Steam. N. Beitung and Packing Co. new list net Picture Nalis. Brass Head. Sargent's List. dis 40.50 Porcelain Head. Sargent's List. dis 40.50 Porcelain Head. Sargent's List. dis 40.50 Porcelain Head. Sargent's List. dis 50.50 Pinking Frons. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. G dos 70.50 Magic. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. G dos 70.50 Magic. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. G dos 70.50 Magic. F dos 8. Mfg. Co. dis 50.50 Magic. G dos 70.50 |
| 1000000000000000000000000000000000000 | Taber's Carpenters. High list, dis cokto 5 Dixon's Lead. F gross \$.5,0 net "Lumber Form Figures \$.5,0 net Packing. Steam. N. Beitung and Packing Co. new list net Picture Nalis. Brass Head. Sargent's List. dis 40.50 Porcelain Head. Sargent's List. dis 40.50 Porcelain Head. Sargent's List. dis 40.50 Porcelain Head. Sargent's List. dis 50.50 Pinking Frons. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. G dos 70.50 Magic. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. G dos 70.50 Magic. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. G dos 70.50 Magic. F dos 8. Mfg. Co. dis 50.50 Magic. G dos 70.50 |
| 1890年1890日1890日1890日1990日1990日1990日1990日1990日 | Taber's Carpenters. High list, dis cokto 5 Dixon's Lead. F gross \$.5,0 net "Lumber Form Figures \$.5,0 net Packing. Steam. N. Beitung and Packing Co. new list net Picture Nalis. Brass Head. Sargent's List. dis 40.50 Porcelain Head. Sargent's List. dis 40.50 Porcelain Head. Sargent's List. dis 40.50 Porcelain Head. Sargent's List. dis 50.50 Pinking Frons. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. G dos 70.50 Magic. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. G dos 70.50 Magic. F dos 8. Mfg. Co. dis 50.50 Pinking Machines. G dos 70.50 Magic. F dos 8. Mfg. Co. dis 50.50 Magic. G dos 70.50 |
| 1890年1890日1890日1890日1990日1990日1990日1990日1990日 | Taber's Carpenters. High list, dis cokto 5 Dixon's Lead. F gross \$.5,0 net "Lumber Bound Gill F gross \$.5,0 net "Lumber F gross \$.5,0 net Packing. Steam. N. Beitung and Packing Co. new list net Picture Nalis. Brass Head. Sargent's List. dis 40.5 Porcelain Head. Sargent's List. dis 40.5 Porcelain Head. Sargent's List. dis 40.5 Porcelain Head. Sargent's List. dis 30.5 Pinking Frons. F dos \$.00.00, net Pinking Machines. F dos \$.00.00, net Astor Piniting Machines. F dos \$10.00, net Crown Plaiting Machines. F dos \$10.00, net Crown Plaiting Machines. Glis \$0.5 Pinnes and Pinne Frons. Bench. Sirst Quality. dis 30.210.5 Bench. Sirst Quality. dis 30.210.5 Bench. Sirst Quality. dis 30.210.5 Bench. Sirst Quality. Glis 30.210.5 Bench. Sirst Glis 30.210.5 Bench. Sirst Glis 30.210.5 Bench. Sirst Glis 30.210.5 Bench. Sirst Gl |
| NATIONAL OF THE RESERVE AND THE SECOND OF TH | Taber's Carpenters' High list, dis cokto 5 Round Gill Sgross \$2,50 net Dixon's Lead Faculty Sgross \$2,50 net "Lumber Faculty F |
| NOTICE OF A CONTRACTOR OF THE SECOND OF THE | Taber's Carpenters' High list, dis cokto 5 Round Gill Sgross \$2,50 net Dixon's Lead Faculty Sgross \$2,50 net "Lumber Faculty F |
| NAMES OF THE PROPERTY OF THE P | Taber's Carpenters. High list, dis cokto 5 Round Gill Sgross \$2,5 net Dixon's Lead. \$2,500. Round Gill Sgross \$2,5 net Packing. Steam. N. Beitung and Packing Co. new list net Picture Nalls. Brass Head. Sargent's List. dis 4620.5 Porcelain Head. Sargent's List. dis 4520.5 Porcelain Head. Sargent's List. dis 4520.5 Porcelain Head. T. & Mig. Co. dis 40.5 Porcelain Head. T. & Mig. Co. dis 40.5 Porcelain Head. T. & Mig. Co. dis 30.5 Pluking Frons. \$2 doz \$5.00, net state from the common state of the commo |

| December 18, 1879. | |
|--|---|
| Punches. | Shovels and Tongs. |
| Punches. P dos \$a.oo: 2.25; 2.50, dis 50; Bernis & Call Co.'s Cast Steel Drive | Shevels and Tengs. From and Brass Head, R. & E. list |
| " Leach's Patent | Square Frame: by casedis 70 s |
| Rail. Rail. Rail. | Spoke Shaves. Defiance Metallicnew list, dis 25&10 % |
| Raiding Door Wrought Brass W B 49c dis 10 from Painted w foot oc. dis 5c-210 for Door, 14, 54, and 75 inch dis 6c-210 for N. E. Hangers dis 5o-210 flakes. | Spoke Shaves. Defiance Metallic. new list, dis 25&10 Iron dia 40 3 Wood dis 30 Ballev's (Stanlev R & L. Co.) new list. dis 25&10 3 3 3 3 3 3 3 3 3 |
| Ration. Calcinometric Ca | Bonney's |
| #4 10 tooth. #4 10 tooth. | Bonney's P dos \$10.00, dis 40&10 \$ |
| 10 12 14 term. \$7.60 4.00 4.40 | Douglass' \$\pi\$ dos \$\pi\$.co. dis zoato s \$\pi\$ peops. |
| Genuine Emerson dis 40 % Badger's Emerson dis 40 % Badger's (not Emerson) dis 25 % | Solid Table and Tea |
| Evans | 6 I. Boardman's Sons, A1 |
| Cliapman | Hall & Elton |
| Torrey's | Cast Steel, Sil. Plated |
| Copper Rivets and Burs | Tin Cowles Hdw. Co.) |
| Tinned from Belt Rivets and Burs | Stocks and Dies |
| Rods. Stair | |
| Rollers. | Sand Stone. W b roc) Sand Stone. W b 6c dis 33562 roc Washita Stone. No 1, W b 180 net |
| Novetty. dis coxro some text of the coxro some text of the text of | Washita Stone (Boyd & Chase). No. 1 9 B 36c net |
| Manufacturers' Net List. Dec. 10, 1879 Manufa | " mo'ted (Boyd & Chase) 6, 7 & 8 in, dis 30 % Turkey Oil Stone (Boyd & Chase)4 to Sin, \$1.00 \times 10, 10, 10, 10, 10, 10, 10, 10, 10, 10, |
| Tar'd Rope | "Slips " \$8.00 kg of the solution of the solut |
| " Hay Rope \$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | Grindstones. Family, Loring's |
| ** Hay Rope \$\frac{1}{2} \text{ and } \frac{1}{2} \text{ inch } \frac{1}{2} \text{ big 14} \text{ c} | Stove Pollsh. |
| Ruies. Boxwood. Ivory. Chapin's | Gold Medal. |
| Standard | Rising Sun |
| Stephens. Willis Thrall & Son | Squares. |
| Sad Irons. From 4 to 1 bs. Self-Heating. " dos \$e. to net " Tallors" " dos \$s. to net " Tallors" Glesson's Shield and Tollet. dis 25 Enterprise Patent Cold Handle Mrs. Pot's Pat. Cold Handle, "Crown" dis 25 Combined Fluter and Sad Iron. per dos \$15.00, dis 175 | Steel |
| Gleason's Shield and Tollet. dis 25 % Enterprise Patent Cold Handle dis 25 % | Diaston's Trv Squares and T Beveisdis 5214 8 Winterbottom's Try and Mitredis 25&10 8 |
| Combined Fluter and Sad Iron. per doz \$15.00, dis 195 | Tacks, Brads, &c. |
| Band Paper. Baeder & Adamson's Flint, co to 1:6 | Tacks, Brads, &c. List of Oct. 21, 1879; |
| ** ** ** ** ** ** ** ** ** ** ** ** ** | All other Tacks, &c |
| | Common and Ringdis solve 4 |
| Sash Cord. | Enterprise Mfg. Codis 20 % Tapes, Measuring. |
| Common. # \$ 10 of 135c net Patent. # \$ 16 net Bilver Lake Russia Flax # \$ 5c, dis 10 \$ "White Cotton # \$ 5cc, dis 10 \$ "a Prab Cotton # \$ 6cc, dis 10 \$ "Brab Cotton # \$ 6cc, dis 10 \$ Raw Hide. dis 2 \$ Steel Ribbon. dis 2 \$ dis 10 \$ | Tapes, flensuring. American dis 10 % Spring Tapes. dis 25 % 10 % Thermometers. |
| Steel Ribbondis 26 % | The range of the r |
| Clark's, No. 1, \$10.00; No. 2, \$8.00 per grossdis 50% Ferguson's | Tobaccs Cutters, Enterprise Mfg. Co. (Champion). dis 20 5 Wood Bottom. \$\psi\$ dos \$12.00. dis 20 \$5 All Iron. \$\psi\$ dos \$512.00. dis 20 \$5 All Iron. \$\psi\$ dos \$510.00. dis 50 \$5 Nashus Lock Co. \$6 \$\psi\$ dos \$18.00. dis 50 \$5 Toe Calks.—Winsted \$\psi\$ dos \$18.00. dis 50 \$5 \$5 Co. dis 50 \$5 |
| Walker's | Nashua Lock Co.'s |
| Sash Locks. Clark's, No. 1, \$10.50; No. 2, \$8.00 per gross | Tinners' Teels and Machines. Machines (P. S. & W.) |
| | Traps. Game, Newhouse Pattern dis 30 % |
| Miles | Blake's Patent |
| Sausage Stuffers or Fillers. F don \$30, dis 30 f Perry F dos; No. 1, \$45; No. 0, \$31, dis 30 f Braw Cut No. 4. each \$30.00, dis 20 f Enterprise Mfg. Co. dis 28 f Silvers. dis 25 f | " Cage " # dos \$2.50, dis 10 \$ Catch-em-alive # dos \$2.75, dis 10 \$ |
| Biawa. Disston's Circular | Tripy Garne, Newhouse dis 30 5 |
| Gross Cut. Hip, &c. dis 24 \$ 4 Hand, Panel, Hip, &c. dis 20 \$ 4 Hand, Panel, Kip, &c. dis 20 \$ 4 Hand, Panel, Kip, &c. dis 20 \$ 4 Hand, Panel, Kip, &c. | Lothropa Brick and Plastering |
| One-Man, all lengths, dis 20 \$ Billet Webs, 30 in. "dis 30 \$ | Peace's Plastering |
| Wheeler & Clemson Mfg. Co.'s Hang dis 25 S Cross-Cut. dis 25 S | Trawels. |
| Silver's. dis 25 Saws. | Triers. Butter and Ch sedis 25% |
| Nos 101 102 103 104 204 Per dox810.00 & 10.00 7.40 5.25 net | Sutter and Ch se |
| White, Vermont | " Peter Wrights |
| Saw Hods Sio list dis. 108 10 S | ** Howard's |
| Boynton's Patent X Cut, per doz. \$12.00; Hand Saw, per doz. \$10.00.00.00.00.00.00.00.00.00.00.00.00.0 | ** Trenton |
| Common Lever | ** Stevens* |
| Nash's | % Y doz \$24.00, dis 20%10 % Stearn 8 |
| Hemis & Call Co.'s Lever & Spring Hammer.dis 3c&10 5 Plate and Cross Cutdis 2n 5 Aiken's Genuine | Lowell Hand Vises |
| " Imitation | Washer Cutters. |
| Scales. Hatch, Counter, No. 171 | Appleton's |
| " Tea, No. 161 | Whahers. — See Nuts and Washers. |
| Scales. Ratch. Counter, No. 171. P dox \$16. dis 40 5 Tea, No. 161. P dox \$1.0.0 16 10.85 5 Union Platform A \$60.0 dis 50 5 Fairbanks' dis 20 5 Howe's. dis 20 7 Chatillon's Grocers' dis 40 5 7 Eureks. dis 42 5 Family Universal dis 45 7 Turnbull's dis 30 5 Ecale Beams, Chatillon's list. dis 25 6 Ecale Beams, Chatillon's list. dis 25 6 Ecale Beams, Chatillon's list. dis 26 7 Eargent's list. dis 40 \$10 5 Eargent's list. di | Weather Strips, Protective Ventilator Co. a |
| Family Universal. dis 45 9 4 45 9 4 45 9 4 4 5 9 4 4 5 9 5 4 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 | Bright and Annealed Nos. o @ 18. dis 45 @ 475 \$ Nos. 19 @ 26, dis 55 @ 575 \$ |
| Scale Beams, Chatillon's list. dis 25 % Fargent's list. dis 40\$10 % | Coppered |
| Adjustable Box Scraper (S. R. & L. Co.), 36,50,dis 25&10 5 Box, 1 Handle | Tinned, Nos. 7 to 18market list, dis 35 6 37 c Cast Steel |
| Defiance Box and Ship. B don 6,00 dis 10 % | Tinned Broom Wire, Nos. 18 to 25 dis 55 64 57% h Annealed Pence, 2 04. 5 and 9 |
| Nerabers | Galvanized Telegraph, Nos. 7 to 9 |
| Screw Drivers. Douglass Mrg. Co | Fence Staples B to Gold Staples Bayes Galvanized B to Gold Staples Galvanized B to 746 @ 81 |
| Disston's Patent Excelsion dis 525 % Buck Bros dis 25 % | Japanned Barb Fence # b 11½c Galvanized # b 125¢c |
| Screw Drivers. Douglass Mg. Co | Weil Wheels |
| Serews. | Judd's Ficture Wire |
| Fiat Head Brass dis 40 % Round Head Brass dis 25 % | Wrenches 415 45 5 |
| Japannet, itst of Plain Screws. dis 40 % Lag or Common Couch. dis 55 % Coach Patrat Gimlet Point, List per 100. dis 55 % | * Diagonal |
| Coach Patsut Gimlet Foint, List per 100 | "Mechanics" |
| Bench, Iron. | Girard Standarddis 55&1 % Girard Agl |
| Hand dis zokto s Hand Rail, Sargent's dis zokto s dis zokto s | Bemis & Call's Patent Combination |
| " Humason, Beckley & Cos dis 40 % Am. Screw Co dis 40 % Jack (Wilson's | Van Wagoner & Williams' Basin |
| Screw Window Balances. R. B. Huguniu s, Single g. o., \$23.94; 5 gro. \$22.68, dis 5 % | Disground. Collins & Gr. S. Coes Germine. Mechanies. Mechanies. Mechanies. Mechanies. Mechanies. Mis & S. Mechanies. Mis & S. Mechanies. Mis & S. Mis & Mis & Mis & S. Mis & Mis & S. Mis & Mis & Mis & S. Mis & Mis & Mis & S. Mis & Mis |
| Shears and Scissors. | Wringers. Per Goz. Per Goz. 100 11 No. 1, 100 11 11 11 11 11 11 11 11 11 11 11 11 |
| Barnard's Lamp Trimmers | NO. 216, WITH CORB. 60,00 NO. 2, 63 00 NO. 3, 71,00 |
| Shears and Scissors. Cast Iron, (American). Cast Iron, (American). See Pruning Hooks and Shears. Barnard's Lamp Triumners \$\psi\$ dos \$8.77 Cast Steel, List, Nov. 25, 1879. Cast Steel, Nov. 25, | Unique, No. 4 |
| Sheaves. W. A.Co. Mrs. dis 40 % | Universal, XX No. 256 60.00 10 10 10 10 10 10 10 10 10 10 10 10 1 |
| Sheaves. | 6 No. 1 93.00 6 No. 1 93.00 6 No. 1 93.00 6 No. 1 12.00 |
| Hatfield'sdis 55&10 k2 S Russell's Anti-Frictiondis 55&10 k2 S Moore's Anti-Friction | NO. 18 |
| More's Anti-Friction (Hanging) | 41 No. 256 34.00 63.00 63.00 |
| Philadelphia Hanging | lovelty, No. 10, with Cog Wheels 57,00 60,00 No. 2, with Published Facilities 63,00 |
| 15 dis 14 g Russey Binns & Co., Patent dis 15 g | Mo. E, for Set Tubs |
| Association List | The Favorite Pocket (Hright) |
| Amee. New list, Jan. 1. 79, with changes of Oet. 15 Hussey Binns & Co. Patent dis 14 Hussey Binns & Co. Patent dis 15 Gld Colony (changes in list Oct. 15, 79). dis 15 Remington's (Lowman's Patent). dis 30 Dunning's Shovels and Scoops. dis 2027/6, 3 B. kow land's 'Regular'. dis 50 Dunding's Facent. dis 2025/5 Oxford Patent. dis 2025/5 Oxford Patent. | Stamped Tinware,—New List Dec. 1, 1878. ommon Stamped Ware |
| Ontord Patentdis 4025 8 | tamped Deep and Retinned Warelist net ax |



Wiley & Russell Mfg. Co., GREENFIELD, MASS.

Lightning Screw Cutting Machinery and Tools.

Bolt Cutters for hand or power. Screw Plates cutting from wire sizes to 1½. Pipe Taps and Dies. Taps, Dies and Reamers for use in the Bit

Taps, Dies and Reamers for Brace.

Brace.

Tire Wheels, Tire Bolt Wrenches, Nut Wrenches.

Green River Tire Upsetters.

Green River Tire Benders.

THE GREEN RIVER HORSE SHOERS' VISE



For Welding Heel and Toe Calks.

Special Screw Plates for the use of model akers, carriage makers and blacksmiths. Green River Drills for hand or power.

Send for Illustrated Price List.

DAVID BLOCK,

Manufacturer of Plain, Stamped & Japanned TIN WARE. Block's Tin Spout Strainer & Patent O. K. Grater.

BLOCK'S STRAINER.

69 BAYARD STREET. Factory, 139 & 141 Centre St., NEW YORK

SABIN MFG. CO., MONTPELIER, VT., Manufacturers of

Double-Acting Spring Butts,

Sabin's Lever Door Springs,

Boss and Crown Springs, For light doors

Send for Catalogue.

PENNOCK'S

Patent Iron-Bender Is one of the most valuable labor-saving tools that has over been adopted by Car Builders or Ma-chinists. They are used by many of the largest Railread Companies and Car Builders in the country. Send for circular.

PENNOCK MFG. CO., Kennett Square, Ps.

See first issue of The Iron Age each month for

HARPER'S Lubricator for Steam The BEST and CHEAPEST in the world. Engines.

WESTVILLE, CONN.

GEORGE W. BRUCE, 1 Platt St., New York,

Sility Agent for CLEMENT & MAYNARD'S Trowels, Hoes, hovels, Spades and Socops. Their Trowels and Hoes are entirely supplanted the English by their quality and cheapness, while all their goods compare advas-igeously with those of other makers, and are largely

NEW ENGLAND BUTT CO.,

MANUFACTURERS OF

Drilled and Common Cast Butts,

Plain, Japanned, Bronzed, or Japanned with Plated Tips.

ALL KINDS OF BRAIDING MACHINERY.

Also, Manufacturers of

Hardware Specialties.

We will be pleased to furnish estimates and take contracts for the manufacture of large lots of small machines, or articles made mostly of cast iron.

FACTORIES:

WAREHOUSE:

31 Pearl St., Providence, R. I. 30 Platt St., New York.

NICHOLS' SELF-ACTING ACID PUMP.



The Old Way.

Absolute Safety! Perfect Ease! Time, Labor and Ma-terial saved by using the NICHOLS ACID PUMPS, to draw all kinds of acids fron

Acid Pump & Siphon Co New London, Conn.



Sidney Shepard & Co.'s

PATENT

PALACE Coal Vases.

This is the most popular Coal Vase ever

1879.

Eight Patterns.

All New Styles

Please send for I ustrated Price Lists.

Address sole manufacturer.

SIDNEY SHEPARD & CO., Proprietors Buffalo Stamping Works. Buffalo, N. Y., or Chicago, Ill.



EDGAR'S PATENT STOVE SHOVELS, MADE IN ONE PIECE.



OUR CELEBRATED BRANDS. THE CEM, VICTOR, U. S., O. K., and EXCELSIOR NEW YORK STAMPING CO., Sole Manufacturers, 311 and 313 Avenue A, New York, U. S. A.

Steel.

H. WOLFF & CO.,

MANUFACTURERS, IMPORTERS, EXPORTERS & GENERAL MERCHANTS MANUFACTURERS OF

CAST STEEL WIRE for all Purposes, Special Wire, Market Steel Wire, Prime Coppered Spring Wire, and of all Kinds of Furniture

Springs, &c.

Importers of IRON & STEEL, WIRE RODS, &c Sole Agents for COCKER BROS., Limited, Sheffield, England.

MANUFACTURERS OF Cast Steel, Wire, and "Meteor" Wire Plates. SMITH. Sole Agents for "PR. HOMO" Dec. Cast Steel, Gun Barrels, Moulds and Ordnance.

EXPORTERS AND GENERAL MERCHANTS.

Direct all communications to

Works, Peekskill, N. Y.

Office and Warehouse, 46 Cliff St., New York.

SO JOHN ST., NEW YORK.

Hammers, Anvils, Vises, Blacksmiths' Tools. WARRANTED CAST STEEL. Specially adapted for Dies, Punches, Turning Tools, Brills, &c.

IMPROVED MILD CENTERED CAST STELL.

**Specially adapted for Taps, Reamers, Milling Tools, &c. Warranted not to crack in hardening Tools of any size.

SHEET, GERMAN, MACHINERY, SPRING AND EVERY OTHER DESCRIPTION OF STELL.

Phila.-J. S. Watson & Son, Agents, 512 Comme Franklin Works, Wadsley Works, Walkley Works, Sheffield, England.

Pittsburgh, Pa.,

CRESCENT

In Bars, Sheets, Cold-Rolled Strips, &c.

Polished, Compressed Drill Rods and Wire,

Warranted equal to any imported in quality, finish and accuracy.

Also Common Grades.

Established 1810.

SHEFFIELD, ENGLAND.

Manufacturers of the "Celebrated "DOG BRAND" FILES. Also of Superior

STEEL

For Drills, Cold Chisels, Tools, Taps, Dies, &c. COLD BOLLED STEEL for Clock Springs, Cornets, &c.
SHEET CAST STEEL for Springs, Saws, Welding and Stamping Cold, &c
GERMAN, MACHINERY, ENGLISH AND SWEDES SPRING STEEL,

Warehouse, 30 Gold Street, New York.

Cleveland Rolling

Manufacturers of BESSEMER STEEL

Iron Rail and Fastenings.

SPRING STEEL

WIRE OF ALL KINDS,

Steel Horse Shoes, Tire, Axles and other Forgings.

Boiler Plate, Galvanized and Black Sheet Iron, Corrugated Roofing and siding of Siemens-Martin, Bessemer Steel and Iron. made from our own Lake Superior Ores. CLEVELAND, OHIO.

AGENTS FOR THE UNION STEEL SCREW CO. H. CHISHOLM, President Cleveland, Ohio. A. B. STONE. Vice-Pres., No. 52 William St., New York,

SANDERSON & CO., GEO. MANUFACTURERS AND

Importers of STEEL,

Removed to 30 Gold Street, New York.

Particular attention is paid to quality and temper for Files, Saws, Edge Tools, TABLE and POCKET CUTLERY, TOOLS, TAPS and DIES; also for COLD ROLLED STEEL for PLOCK SPRINGS, CORSET CLASPS, &c.

A Large Assorted Stock of JOHN ROTHERY'S FILES always on hand.

Steel.

NEWARK STEEL

BENJAMIN ATHA & CO.,

Manufacturers of

REFINED CAST

And grades of Steel specially adapted for Lathe Tools, Chisels and Taps and Dies.

Warranted most superior for TOOLS AND GRANITE ROCK DRILLS. A full assortment of this universally approved OLD BRAND and other Steels for sale by

EDWARD FRITH & SON, Agents,

No. 241 Pearl St., New York.

LABELLE STEEL WORKS.

SUTTON

Also Springs, Axles, Rake Teeth, &c. OFFICE & WORKS, Ridge, Lighthill & Belmont Sts., & Ohio River, Allegheny.

Post Office Address, Pittsburgh, Pa. Represented at Boston by WETHERELL BROS., 21 Oliver St.; at Milwaukee by JOHN PRITELAFF, 43 to 49 West Water St.; at Chicago by S. D. Kimbark, 80 to 84 Michigan Ave.

ALBANY & RENSSELAER IRON & STEEL CO., Walter R. Wood, Troy, N. Y.,

Office In New York City, 56 BROADWAY.

Bessemer Railway Steel,

MERCHANT BARS, TIRE AND SHAFTING.

Railroad Iron, Pig Iron, Merchant and Ship Iron, AGENCIES IN BOSTON AND PHILADELPHIA.

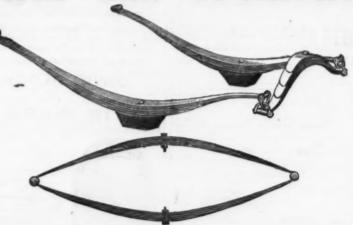
This Advertisement is Changed Every Week.

D. G. GAUTIER, Chairman.

D. J. MORRELL, Treasurer.

CHAS. DOUGLASS, Gen'l Supt.

STEEL.



WORKS JOHNSTOWN, PENN.,

Eastern Warehouse, 93 John St., N. Y.; Phila. Warehouse, 515 Commerce St.

FRANCIS HOBSON & SON. 97 John Street, NEW YORK,

Sole Manufact'rs of "CHOICE" Extra Cast Steel.

Manufacturers of all Descriptions of Steel.

Manufacturers of Every Kind of Steel Wire.

Don Works, Sheffield, England. OHAS, HUGILL, Agent.

C. WARDLOW.

Sheffield, England, Manufacturers of the Celebrated

Cast and Double Shear

In Bars, Sheets and Coils, for fine Pen and Pocket Cutlery, Table Knives,

Mining Tools, Dies, Files, Clock and other Springs, and Tools of every variety. Warehouse, 95 John Street, New York,

WILLIAM BROWN, Representative.

FOREST CITY STEEL CO.,

Crucible Steel for Drills, Taps, Dies, Tools, Mill Picks, &c.

Testimonial of D. J. Jones, Roll Turner, Cleveland Rolling Mill Co.

"I have been testing the steel on chilled iron rolls along with the best English and American steels and find its superior to any of them in every respect."

Examples furnished for trial. Quality guaranteed equal to any.

No. 13 Detroit Street, Cleveland, Ohio.

Steel.

WORKS. R. MUSHET'S Special Steel

LATHES, PLANERS, &c.

Turns out at least double work by increased speed and feed, and cuts harder metals than any other steel. Neither hardening nor tempering required

SAMUEL OSBORN & CO., Sheffield, England. Represented in the United States by

RANDALL & JONES, 10 Oliver Street, BOSTON.



Used for refining and temper ing all kinds of Steel Tools. Increases their durability at

Secures absolute safety from cracking. Send for circular to

BAUER & CO.

96 Greenwich Ave., N. Y.

Bmery, Grindstones, &c.

GRINDSTONES. Berea, O., Nova Scotia, & other brands

283 and 285 Front Street, New York.

WORTHINGTON & SONS North Amherst, Ohio. Manufacturers of

Lake Huron Amherst and Berea



107th Street and Harlem River, Send for Illustrated Price List. NEW YORK.

H. S. WOOD & CO., Manufacturers of Importers of

Berca, 6., Biack River, 0., Wickersley, Eng., Vickersley, Eng., Nova Scotis, CRINDSTONES,

33 West and 58 Washington Sts., N. Y. ASHLAND EMERY CO.

CHARLES ALDEN, MANAGER.
Importers and Manufacturers of Pure

TURKISH EMERY A. A. IRVINE & CO., Agents, 14 MURRAY St., NEW YORK. Send for quotations and samples.

EAMES' OIL FUEL PROCESS CO.

PETROLEUM IRON WORKS, Titusville, Penn.,



Manufacturers of Petroleum Iron Blooms.

These Blooms are made from selected wrough scrap with petroleum fuel; can be used for making crucible steel, tack plate, horse shoes, boiled



Steel.

THOMSON STEEL CO.,

STEEL RAILS. BLOOMS & INCOTS

General Office and Works at Bessemer Station (Penn. R. R.), Allegheny County, Pa.

New York Office, 57 Broadway.

The members of the Edgar Thomson Steel Company, Limited, have had large experience in manufacturing and in railway management; their works are the most complete in the world, with all the late improvements, and are located in the best Bessemer metal district in the United States, and their managing officers are experienced in the manufacture of Bessemer Steel.

The Company warrants its rails equal in quality to any manufactured in the United States, Rails of any weight or section furnished on short notice. Orders for trial lots solicited.

Branch Office and P. O. Address, THOS. M. CARNEGIE,

No. 48 Fifth Ave., Pittsburgh, Pa. D. A. STEWART, Sec'y and Treas.

Chairman.

JOHN WILSON'S CELEBRATED BUTCHERS' KNIVES. BUTCHERS' STEELS, SHOE KNIVES. THE TRADE MARK, IN ADDITION

88 STANPED UPON EVERY ARTICLE MANUFACTURED BY JOHN WILSON.

GRANTED A.D. 1766, BY THE GOMPORATION OF CUTLERS OF SHEFFIELD, AND PROTECTED BY ACT OF PARLIAMENT.

BUYERS ARE SPECIALLY CAUTIONED AGAINST

**MITATIONS OF THE MARK, AND THE

SUBSTITUTION OF COUNTERFEITS

BEARING THE NAME, "WILSON," ONLY.

TO THE NAME,

Works :- SYCAMORE STREET, SHEFFIELD. ESTABLISHED in the Year 1750

North Chicago Rolling Mill Co. ESTABLISHED 1847. CAPITAL, \$3,000,000.

Works at Chicago, Ill., and Milwaukee, Wis. MANUFACTURERS OF

MERCHANT BAR, FISH PLATES, PIG METAL, IRON RAILS & BESSEMER STEEL RAILS.

CAPACITY OF WORKS.

Fish Plates...
Merchant Bar.
Figh Metal...
Iron Rails...
Stel Rails... Total Capacity per year. OFFICES: 17 Metropolitan Block, Chicago, Ill. 37 Mitchell Block, Milwaukee, Wis.

THE

STEEL COMPANY OF SCOTLAND, LIMITED,

(SIEMENS' PROCESS.)

MANUFACTURERS OF

Steel Rails,

Steel Ship Plates,

Steel Blooms for Rails, Steel Blooms for Wire, Steel Boiler Plates,

Steel Wire Rods,

Steel Angles,

Steel Locomotive Fire Boxes,

Steel Forgings, Steel Castings.

JAMES LEE & CO.,

Resident Agents for the United States, 72 Pine Street, New York.

PYROLUSITE MANGANESE COMPANY, Crystallized Black Oxide of

Manganese

IN CRUDE STATE.

Suitable for the manufacture of Ferro-Manganese, Spiegeleisen, Bessemer Pig, &c. Also, fine ground and granulated, especially prepared for STEEL, GLASS, PAINT, VARNISH and DRYER MAKERS, OIL BOILERS, &c.

MANUFACTURERS OF SUPERFINE FLOATED Standard Barytes, Gritless Ochre, Borate of Manganese, &c. Office, 54 Cliff Street, New York.

Philadelphia Smelting Co., S. E. Cor. Twelfth and Noble Sts., PHILADELPHIA.

GENUINE BABBITT, Guaranteed at a speed of 10,000 a minute, and at any pressure for 10 years.

DEOXIDIZED BRONZE, Superior to Phosphor Bronze or any other alloy of Copper and Tin for Machinery Journals.

EILADELPHIA SMELTING COMPANY, City.—GENTLEMEN: After a trial of eighteen months of your coxydized Bronze "as journal boxes in our rolling mill, where great pressure is required, we a pleasure in recommending it as being superior to any we have heretofore used. Very truly.



"THE BOSS" JACK-SCREW

R. D. WYNN.

Windsor, Vt., U. S. A.,

Sole manufacturer of the above Screw. Indorsed by builders, railroad and mining men as the best screw jack in the market. Also manufactures Press Screws, Lard and Wine Presses, Tackle Blocks, &c. Circulars and prices, address as above. (Please say The Iron Age.)

NAILS

Window Shade Nails, French Points, Upholstering, WAGON NAILS, Molding Nails

Electrotype,

Roofing Nails,

Veneer Nails, Label Tacks and small Nails of all kinds, Cabinet Nails, Barbed Lock Nai Depers, or as wanted.

NAIL CO. AMERICAN WIRE Factory, Fifteenth and Madison Sts. COVINGTON, KY.

ESTABLISHED IN 1859.



UBLISHED EVERY SATURDAY.

THE OLDEST AND CHIEF REPRESENTATIVE OF THE IRON, HARDWARE AND METAL TRADES.

OFFICE: 44a CANNON STREET, LONDON, E. C.

ADVERTISEMENTS AND SUBSCRIPTIONS ARE RECEIVED AT THE VARIOUS OFFICES OF "THE IRON AGE," NAMELY:

NEW YORK OFFICE: DAVID WILLIAMS, Publisher of The Iron Age, 88 Reade street.

PITTSBURGH OFFICE: 77 Fourth Avenue-JOS. D. WEEKS, CINCINNATI OFFICE: Builders' Exchange-T. T. MOURE, PHILADELPHIA OFFICE: 270 South Fourth Street—THOMAS SOUTHERN OFFICE: Cor. Eighth and Market Streets, Chalta-

SPECIAL FEATURES.

Notes of Novelties.—This is a department of the journal always watched with interest by the trade, as it contains an account, from week to week, of the novelties which manufacturers and inventors are introducing to the notice of the trade. These articles are freely illustrated.

Special Correspondents.—The Ironmonger has a deserved reputation for its special correspondence from all the principal Continental, British and manufacturing centers. The writers are gentlemen holding important positions in the districts with which they are connected, and possess facilities for acquiring information specially suited for the columns of the Ironmonger The Week, Legal News, Trade Notes, Bankrupicies, Foreign Notes, Colonial Jottinus, Merchanis' Circulars. Imports and Exports. &c. are each departments of the journal, containing a digest of all matters of direct interest to the Iron, Hardware and Motal Trades. In addition to the above, there is a carefully classified list of Fatents, together with Editorial Notes, French, Belgian and other Special Correspondence.

SUBSCRIPTIONS

to the Ironmonger and Metal Trades' Advertiser, with which is sent every fourth week the Foreign Supplement (see below), may commence from any date, but are not received for less than a year complete. The rate is \$5 per annum, inclusive of postage to any part of the world outside Great Britain, To every subscriber is presented, free, in the course of his year, a handsome and useful Ironmongers' Diary and Text Book, a work sold to non subscribers at 75 cents.

ADVERTISEMENTS

are inserted in the Ironmonger and Metal Trades Advertiser at the subjoined rates, from which no variation can be made on any ground whatever.

Size of Page-Nine Inches Deep by Six Inches Wide.

One Advertisement of every Series of 13 Monthly, 27 Fortnightly, or 53 Weekly, will be inserted in the Ironmongers' Diary and Text Book, published toward the end of each year, and presented to every Subscriber.

| | 53 INSERTIONS, each net. | 27 INSERTIONS, each net. | 13 INSERTIONS, each net. | 7 INSERTIONS, each net. | insertions, each net. | INSERTIONS, each net. | I INSERTION, net. |
|--|--------------------------------------|--|--|--|---|---|--|
| One page. Two-thirds page. Half page. One-third page. Quarter page. One-sixth page. One-eighth page. One-sixteenth page. | 9-75 7.00 5.60 3-95 3.15 | Gold. \$18.75 14.10 10.25 7.50 6.00 4.25 3.40 1.90 | Gold. \$20.00 15.00 11.00 8.00 6.40 4.50 3.60 2.00 | Gold. \$22.50 16.90 12.40 9.00 7.25 5.10 4.10 2.25 | Gold. \$25.00 18.75 13.75 10.00 8.00 5.65 4.50 2.50 | Gold. \$30.00 22:50 16:50 12:00 9:60 6:75 5:40 3:00 | Gold. \$35.00 26.25 19.25 14.00 11.20 7.75 6.25 3.50 |

SPECIAL ISSUES.

In April and October of each year there is published a Special Issue, the circulation of which is not less than Twelve Thousand (12,000) copies

THE IRONMONCERS' DIARY AND TEXT BOOK.

This is an annual, presented free to every Subscriber to the IRONMONGER AND METAL TRADES ADVERTISER.

It contains a large number of ruled skeleton pages for diary and other entries, and in addition much useful reference information, varied from year to year. It is handsomely bound in cloth, gilt; and as copies are used in thousands of establishments for a whole year, it is obviously a medium of exceptional value for advertisements. Sold to non-subscribers at 75 cents.

THE FOREIGN SUPPLEMENT

is published every fourth week in connection with the extensive and world-wide circulation of the Ironmonger itself. The dates of its publication in 1878 will be as follows:

JANUARY 11, FEBRUARY 8, MARCH 8, APRIL 5, MAY 3 and 31, JUNE 28, JULY 26, AUGUST 23, SEPTEMBER 20, OCTOBER 18, NOVEMBER 15,

DECEMBER 13.

This Supplement is published in

FIVE LEADING COMMERCIAL LANGUACES

of the world, including English, and is sent to all the countries where they are spoken, thus placing the contents of the Ironnonger not only within reach out in the native language of eighty millions of German, forty-two millions of French, twenty-eight millions of Italian, and fifty-one millions of Spanish speaking people; or, in all, over two hundred millions of inhabitants in the principal nations where the best purchasers of manufactured goods are to be found.

Advertisements are inserted in any language at the following

MODERATE TARIFF.

Size of Page-13% Inches Deep by 9% Inches Wide.

| | | | | | | | - |
|-------------------------------|--------------------------------|---|---|--|--------------------------|--|--|
| | I3 INSERTIONS, each net. | 7 INSERTIONS, each net. | 3 INSERTIONS, each net. | | insertions, each net. | 7 INSERTIONS, each net | INSERTIONS each net. |
| ne pagewo-thirds pagealf page | 22.00 17.00 | Gold. \$33-75 24-75 19.15 14.10 | Gold. \$37.50 27.50 21.25 15.65 | Quarter page. One-sixth page. One-eighth page. One-sixteenth page. | 7.50 6.20 | Gold. \$11.25 8.45 7.00 3.40 | Gold. \$12.50 9.40 7.75 4.00 |

Advertisers will do well to use Illustrations freely. Where economy of space is an object, a left page illustrated and described in one language, cambe suitably described in four or more languages on the opposite or right page without illustrating.

THE WHOLE FOREIGN HARDWARE TRADE,

Agents. | Pugsley & Chapman, 8 Liberty St., New York. | Sam'l May & Co., 16, 18 & 30 Oliver St., Boston, other ordinary channels of communications.

B. KREISCHER & SONS,

FIRE BRICK.

BEST AND CHEAPEST. Office foot of Houston Street, East River, NEW YORK.

NEWTON & CO.,

ALBANY, N. Y., Manufacturers of

BRICK FIRE

Stove Linings,

Range and Heater Linings

Cylinder Brick, &c., &c.

M. D. Valentine & Bro

FIRE BRICK **And Furnace Blocks** DRAIN PIPE & LAND TILE. Woodbridge, - - - N. J.

BORGNER & O'BRIEN.

FIRE BRICK

Edge Pressed Furnace Blocks, CLAY RETORTS, TILES, &c., Twenty-third Street, ce, PHILADELPHIA Twenty years' practical Experience

PERTH AMBOY TERRA COTTA CO.,

A. HALL & SONS, Perth Amboy, N. J., ARCHITECTURAL TERRA COTTA

Brooklyn Clay Retort

FIRE BRICK WORKS.

Watson Fire Brick Manufactory

OHN R. WATSON. Perth Amboy, New Jersey.

FIRE BRICK,

For Rolling Mills, Blast Furnaces. Foundries, Gas Works, Lime Kilns, Tanneries, Boiler and Grate Setting, Glass Works, &c. FIRK CLAYS, FIRE SAND, AND KAGLIN FOR SALE.

HENRY MAURER,

Excelsior Fire Brick & Clay Retort Works,

Bandscurer of FIRE BRICK, HOLLOW
BRICK AND CLAY RETORTS.
WORKS PRESS AMON, NEW JERREY
Office & Depot: 418 to 429 East 23d St., N. Y

TROY FIRE BRICK WORKS

JAMES OSTRANDER & SON,

ESTABLISHED 1848, Manufacturers of

FIRE BRICK,

Established 1864.

CARDNER BROTHERS

STANDARD SAVACE Fire Brick, Tile & Furnace Blocks.

Clay Gas Retorts and Retort Settings,

Miners and Shippers of Fire Clay. OFFICE OF PROPERTY. PHILIDEPPH, Par

Wongs: Mt. Savage Junction, Md., and Lockport, Pa HALL & SONS, MCUACES

FIRE BRICK

Buffalo, N. Y.

MILLER'S BRICK PRESSES

FIRE and RED BRICK And Brickmakers' Tools in General.
SAML. P. MILLER & SON,
309 South 5th 5t, Pattadelphia.

W. & J. TIEBOUT,

Manufacturers of

Brass, Galvanized & Ship Chandlery Hardware,

Mo. 290 Pearl Street, New York.

DUC'S IMPROVED

NICHOLSON FILE CO.,

FILES AND RASPS.

Filers' Tools & Specialties.

Manufactory and Offices at Providence, R. I.

The following space will be used in illustrating our specialties, the matter being changed weekly.

STUB FILES AND HOLDER. FILES DETACHABLE. Patented June 4, 1878.

MACHINISTS' SCRAPERS.

SURFACE FILE HOLDER. Patented June 12, 1877.

PIT SAW. THREE-SQUARE. CABINET.

Patented Feb. 12, 1878,



In 12 in., 14 in., 16 in. and 17 in. Sizes.

Send for Circular.

PILLAR

REAPER.

THE STORE-HOUSE BUCKET.

No Corners to Catch.

Light Running and Very Durable. The only Scientifically Constructed Elevator Bucket in the Market.

T. F. ROWLAND,

Sole Manufacturer, CONTINENTAL WORKS, Brooklyn, E. D., N. Y.



In 3% in. to 10 in.

Pure White Lead, Red Lead, Litharge, Orange Mineral, Linseed Oil, AND PAINTERS' COLORS

TRADE MARK.

MANUFACTURERS OF

John T. Lewis & Bros

No. 231 South Front St., PHILADELPHIA.

EWIS

Brooklyn White Lead Co.



White Lead, Red Lead & Litharge. 89 Maiden Lane, NEW YORK. FISHER HOWE, TREASURER.

JOHN JEWETT & SONS WHITE LEAD.



LINSEED OIL. 182 Front Street, NEW YORK.



The Atlantic White Lead and Linseed Oil Co.,

White Lead (Atlantic), Red Lead, Litharge & Linseed Oil. ROBERT COLGATE & CO., 287 Pearl Street, New York



Market Steel

DUNBAR BROS.

Clock Springs and Small Springs BRISTOL, CONK



FILE CARD AND BRUSH.

Axes and Hatchets. Grub Hoes and Mattocks, Mill Picks, Box Chisels and Scrapers,

Ax Eye Bush Hooks, Socket Bush Hooks, Watt's Ship Carpenterst Tools, Carpenters' Drawing Knives, Coopers' and Turpentine Tools. FOR KALE BY

VISE FILE HOLDER. Patented June 12, 1877.

MARTIN DOSCHER, Agent, 96 Chambers Street, N. Y.



Established 1838. Bevin Bros. Mfg. Co.1 Easthampton, Ot SLEIGH BELLS

House, Tea, Hand, Geng Bell &c. Bell Metal Equite

DRS Co.

NS

ORK.

Lead,

prings

ton St.,

Best Refined Cast Steel.

| | 1- |
|--|--|
| (Corrected Weekly by Lloyd, Supplee & Walton.) Terms, 30 days. For 50 or 90 days, interest added at 10 per cent. per annum. | Spoons. Plated. German Silver. Britannia, Boardman's. Parker's. Tinned. by case. |
| A nviis. Peter Wrights, * * | by case Springs,—Torrey. Philadelphia, in., \$5.00; Chatfield No. 1, \$2.75; 2, \$3.2 Gem Coil No. 1, Large Jap d No. 3, Medium Jap No. 3, Small Jap'd. |
| Apple Parers. Reading No. 72 | No. 3, Smail Jap'd Stocks and Dies. Steve Polish.—Gem Dixon. |
| Lots of 10 to 15 dozen special price. A xes. Mann's Red Warrior per doz. \$0.00 net Red Indian \$0.00 net Red Chieftain, beveiled \$0.00 net Crown Prince \$0.00 net Prince \$0.00 | Tacks, Brads, &cShow Nails—4-8 and larger, Double Pointed TacksTrapsGenuine Oneida—Newhouse |
| Crown Prince. 9.50 net Augers and Auger Bits. dis 40&10 % Bates Nut Augers. dis 50 % Cook's Augers. dis 50 % Watrous Ship Augers. dis 15 % | Im. Oneida—Newhouse list, Vises.—Solid Box. Trenton n |
| Augers and Auger Bits. Bates 'Nut Augers | Coes' Genuine Mechanics' Mechanics' Philada. Tool Co., Duplex. Wire. Bright or Ann'd, No. eto at No. 19 to 28 |
| Balances, Light and Common | Bright or Ann'd, No. e40 st "No. 19 to 2t "No. 27 to 3t Coppered, o to 18 Tinned Broom Wire Galvanized, No. 7 to 18 Wringers.—Novelty No. 10. |
| Connell's Door Bells. Gt. Western & Kentucky Cow, new listdis 40×10 % Gt. Western & Kentucky Cow, new listdis 40×10 % Bolt and Rivet Clippers. Chambers' No. 1. for % bolteach, \$7.50 / No. 2. % 1 1 1 9.00 / No. 3. % 1 1 12.00 / | Wringers.—Novelty No. 10. Novelty No. 2. Universal No. 256. No. 2. Peerless, No. 256. No. 2. |
| Boring Machines. Upright, with Augers. Without Augers. Angular, with Augers. Without Augers. Bolts.—Eastern Carriage Bolts. List \$8.50 dis 40 % 5.00 dis 40 % 6.75 dis 40 % Bolts.—Eastern Carriage Bolts. Bolts.—Eastern Carriage Bolts. Stanley, Wrought Shutter. Mis 50 % Stanley, Wrought Shutter. Mis 50 % | PITTSBI Merchant TERMS.—Note or acceptance |
| Belts.—Eastern Carriage Boltsdis 70&5 %, cash Philadelphia | TERMS.—Note or acceptance rate of exchange on New You cent. for cash, if remitted wo finvoice. Flat Bo 134 to 4 by 34 to 1 inch |
| Braces Barber'r dis 40&5 % | 134 to 4 by 34 to 1 inch |
| American Ball. American Ball. American Ball. | 3½ to 6 by ¼ and 5·16 inch 1½ to 3¼ by ¼ and 5·16 '' 1 to 1½ by ¼ and 5·16 '' ½ to 3½ by ¼ and 5·16 '' ¼ to 3½ by ¾ and 5·16 '' ¼ and ½ by ¼ and 5·16 '' |
| Narrow, Fast dis sokto | 3 to 6 by 1/2 to 3-16 |
| Chains.—German Halter and Coll. new list Oct. 22, | 1 to 6 by 16 to 3:16 |
| Chause - German and sale to the second of th | Hoop Ir |
| Butcher's | 54 and 9-16, 17 to 20 54 and 13-16, 17 to 20 58 and 13-16, 17 to 20 18 and 15 16 to 19 154 to 2, 16 to 18 |
| Cutlery Walden Pocket | 256 to 356 |
| Addustable Wandle dia 15 \$ | 3% to 4 |
| Fry Pans. dis so S | Oval Ire \$ to \$\frac{1}{2}\cdot \frac{1}{2}\cdot \frac{1}\cdot \frac{1}{2}\cdot \frac{1}{2}\cdot \frac{1}{2}\cdot \frac{1}{2}\cdot \frac{1}{2} |
| Files | 74 to 14 inch |
| Fluting Machines. Eagle—34 in. roll | Sheet 17 Common. No. 10 to 14 |
| Yerkes & Plumb'sdis 20 % Hatchets Yerkes & Plumb | No. 28. 53C All sheets No. 19 and lighte not less than 2-roc extra. |
| Hinges. Strap and T. Horse Nails. Nos. 5 6 7 8 9 10 Ausable. Pol'ed & Pt'd and Blued and Pointed. 31 28 26 25 24 23 Globe. New list. 26 23 21 20 19 18 Clinton. Polished & Pointed. 22 20 19 18 17 Polished & Pointed. 23 21 20 19 18 Southern, all sizes. Discognt on Ausable and Clinton, 20 5; Globe, 105 Locks and Knobs. | 3.16 to 36 in. thick. Tank Ir Plow Siabs. "Wings. Coal Screen 1% by % by 5-16 |
| Globe | 214, 3, 314 and 4 inch |
| Locks and Knobs .55&2 \$\frac{3}{2} Gaylord Cabinet | 8 lbs. to the yard340 20 |
| No | Cast Chairs and Splice Jo Rail, 45c each; 28 and 40 lb. Re 3½ by ½ and ½ Splkes for 20 a 2½ and 3 by ½ " 12 a 2½ by 5.26" " 8 lb |
| Lanterns, Square Candle and Oil | ### ################################## |
| Mattocks. Long and Short Cutternew list Pennsylvania Patternper dos | Norway " |
| Melasses Gates. Enterprise Mrg. Co.'s Measuring Faucetsdis 20 % Stebbins' Gates | Wood's Fatent Pla 1st quality (A)10\(\frac{1}{2}\tilde{\text{c}}\) [2] (2) Galvanised Iron- Nos. 14 to 20120 N. |
| Meat Cutters Pennsylvania Meat Cutter. dis of Dixon's. | Galvanized Iron- Nos. 14 to 20 |
| ### American dis 25 Enterprise Stuffers dis 25 Enterprise Stuffers dis 30 Stuffers dis 30 Stuffers dis 40 | Common and imperfect July 30&10 %. Roofing Iron, Correg Galvanised Common. No. 20 |
| New York Tool Co. dis 40 \$ Bailey | Solid Wrought Iron Beams, and C Solid Wrought Iron Beams, 3 Beams, 7 to 9 in. by 30 ft Channel Bars, 14 to 10 im by 50 Tee Iron The Iron Iron Iron Iron Iron Iron Iron Iron |
| | rin.xi in. to 5 in.x3 in |
| Rules Stanley Box wood. | Miscellaneous Shapes, various Special prices for large lots |
| Lbs 50 too 180 200 250 500 Squares. Steel and Iron dls 50%, full case, dis 50% of Try Squares, Stanley Dission's Try Squares dis 50% of Stanley Dission's Try Squares dis 50% of Stanley Dission's Try Squares. | rod to 60d |
| Sueres. 50 100 185 200 250 500 Squares. Steel and Iron. dls 56 %, full case dls 56 105 Try Squares, Stanley dls 56 %, full case dls 56 105 Try Squares, Stanley dls 56 %, full case dls 56 105 Stythes. Colden Clippis Dambscus Blade, Boxed and Sharpened. Blade, Boxed and Sharpened. Clipper No. 10, Bronsed Blade, Boxed and dos 85 50 not blade and the standard stand | % in 7.65 13 |
| Disston's Circular of Bain Tooth dis 35 Copes Cat Joy Bain Tooth dis 35 Champion Tooth dis 35 Shovets and Spaces. | Pinishing 15 15 15 15 15 15 15 1 |
| Shevels and Spades. dis parce distribution di distribution distribution | Chinch—All sizes |
| To I So net Turkey Oil Stone No. 1 Bo net Hindarian Oil Stone No. 1 Bo o | Cut Spikes-All sizes Boat Spikes-Out Slatin Slatin 4.65 30 44 4.65 30 46 3 |
| Turkey Oil Stone No. 1 | Tabacco. 815 60 |

| r | 'E |
|---|--|
| Speens. Plated dis 40, 525, 786, 78 German Silver dis 50, 1025, 5 | Web |
| Speens | % to 5-16 a % an Shin Mil |
| Gem Coli No. 1, Large Jap'd | Ordi Oct 5-16 a |
| Stocks and Dies Glis 10.05 Steve Pelish - Gem Fross, \$4.50, dis 5.60 | r to 4 7-32 Bei Cu |
| Traps. Genuine Oneida—Newhousedis 30 % Im. Oneida—Newhouse list. first qualdis 50&20 % | Solid "Iro Soft Land |
| Vises.—Solid Box, Trenton new list .dls 35 % Wrenches.—Agricultural .dls 65 % Coes' Genuine .dls 55 % " Mechanics' .dls 55 % " Mall. Bar .dls 55 % Philada. Tool Co., Duplex .dls 25 % | Circu Scytl Fork Hors Fing Corn |
| | Plan Hoe, |
| Wries. Bright of Ann'd, No. e-to 18. dia 45 @ 47½ \$ "No. 19 to 26. dia 56 @ 67½ \$ "No. 27 to 36. dia 50 @ 62½ \$ Coppered, ot 18. dia 46 @ 42 \$ Tinned Broom Wire. dia 52 \$ Galvanized, No. 7 to 18. Market List, dia 37½ \$ Wringers.—Novelty No. 10. # dos \$60,00 net \$ No. 25 # 53,00 net \$ Peerless, No. 25 # 60,00 net \$ No. 2 # 60,00 net | to to 21 t Beve |
| Peerless, No. 2/5. "60.00 net | Furn Hous Guid Spin |
| PITTSBURGH. Merchant Iron. | Pipe Rolli Spur |
| TERMS.—Note or acceptance at 50 days, with current rate of exchange on New York, or a discount of 2 per cent. for cash, if remitted within 10 days from date of involce. Flat Bar. 154 to 4 by 16 to 1 inch | Pulle |
| of invoice. Flat Bar. 1\(\) | 6 to 8 to 15 to 24 to |
| 1% to 3% by % and 5-16 | Juni |
| 96, %4 and % by %6 to 96 Inch. 3.40 Heavy Bands. 3.20 136 to 5 by 4 and 5.16 3.20 136 to 34 by 4 and 5.16 3.20 136 to 34 by 4 and 5.16 3.20 14 to 16 by 4 and 5.16 3.20 15 to 34 by 4 and 5.16 3.20 15 to 5 by 54 and 5.16 3.50 3 to 5 by 54 and 5.16 3.50 3 to 6 by 16 to 3.16 3.30 3 to 6 by No. 11 and No. 12 3.50 136 to 24 by 16 to 3.16 3.50 136 to 24 by 16 to 3.16 3.50 136 to 136 by 16 to 3.16 3.50 137 to 10 by 16 to 3.16 3.50 14 to 15 by 16 to 3.16 3.50 15 to 16 by 16 to 3.16 3.50 15 to 17 by 15 to 3.16 3.50 15 and 16 by 16 to 3.16 3.50 16 and 17 by 16 to 3.16 3.50 17 and 18 by 16 to 3.16 3.50 18 and 18 by 18 to 3.16 3.50 | Strice 500 b Pai m (Dry Oran Red Lithi |
| # And 9-16, Nos. 13 to 16 | from be al |
| 1 and 156, 13 to 15. 43c 134 to 2, 13 to 15. 33e 6 and 0-16, 17 to 20. 0.0c 54 and 11-16, 17 to 20. 5-50 | |
| 96 and 96 by No. 11 and No. 12 | 6 X |
| r to 174 3.00 8 to 9-15 3.20 2 to 28 3.00 8 to 9-15 3.40 2 to 28 3.00 8 to 7-16 3.40 2 to 28 3.00 8 to 7-16 3.40 3 to 4 4.00 5-16 3.80 4 to 5 4.50 4 | 15 X 2 26 X 2 26 X 3 26 X 4 30 X 3 30 X 3 30 X 3 |
| 74 to 134. 3.40 3.40 3.80 3.80 3.60 34 4.20 4.20 4.20 4.20 4.20 4.20 4.20 4.2 | 6 X 11 X 1 18 X 2 |
| % to % " 4-20 % " 6.00 Horse Shoe, to 1% by 5-16 to % inch. 4.00 | 15 X 3 26 X 3 26 X 3 |
| \(\text{to 134 by \$c.16 to \$V_{\text{incl}}\$ | 30 X 30 X 30 X 30 X 30 X |
| No. 10 to 14 | An glass inche |
| not less than 2-10c extrs. Tank Iron. 1-16 to 14 in. thick | 1111 |
| 1% by % by 5-16 | 6 |
| 2\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | |
| 1% by % " " | L |
| 8 ibs. to the yard | For |
| 3½ by ¾6 and ¾6 splikes for 20 and 28 lb. Rail 4.20 2½ and 3 by ¾6 " 12 and 16 lb. Rail 4.50 2½ by 5, 16 " 8 lb. Rail 4.50 Flat Rails—Punched and Countersunk. 1½ to 2 by ½6 to ¾6 inch 3.50 1½ by ¾6 and 7-16 inch 3.70 1½ by ¾6, 7-10 and ½6 inch | Bras in th plair and the b |
| 114 by %, 7-10 and % inch. 4.0c Juniata Nail Rods. 7.0c Norway 8.5c Guard For Korke and Sayleys. 8.5c | sprin with scree chea |
| Juniata Nail Rods 7,00 Norway 8,50 Guard Iron, ½x½x½b, and ½x½x½ 4,50 ½x½x,16, and ½x½x¾ 4,70 Drag Bars 7,50 Cylinder and Landside Iron 3,70 Plow Beam Iron 3,50 Woodle Polymer Market Charles 3,50 | We Good Knot Busin |
| Wood's Futent Finnished Sheet 1st quality (A) | Gust |
| Nos. 21 and 26. [36] No. 29. [36] Common and imperfect Juniata, 40 % off. Discount, 30 % 10 %. Roofing Iron, Corrugated or Crimped. Galvanized Common. Black. No. 20 | - |
| Carnegie Bros. & Co.'s list. Beams and Channels. | |
| Carnegie Bros. & Co. 3 list. Beams and Chamsels. Solid Wrought Iron Beams, 3 to 10½ in. x3 ft. \$\mathbf{t}\$ \$\mathbf{t}\$ \$\mathbf{t}\$ \$0\$ in. by 35 ft. \$\mathbf{t}\$ \$\mathb | |
| 1 in. x ₁ in. to 5 in. x ₃ in. Angle Iron. | |
| I in.xi in. to 5 in.x3 in. Angle From. Equal Bided, 1xi to 1/2xi 1/2 in. Equal Bided, 1xi to 1/2xi 1/2 in. The state of the state o | SAR |
| Bratts | E |
| 14 in. 7.65 13 ii 5.15 13 ii 5.15 13 ii 5.15 13 ii 1.65 14 15 15 15 ii 1.65 1 | 1 |
| 1 in. 8.65 2 in. 5.10 1.15 1.15 1.15 1.15 1.15 1.15 1.1 | 1 |
| Constagrand Box | 6 |
| 7g im | |
| 5d. | E |

| 0, 484 % | Dest Renned Cast Steel. | |
|--|---|-----------|
| 10dt 5 % 50dt 5 % 50dt 5 % 6 20 % dis 20 % | % to 2 in | 000 |
| 2.50 net dis 25 % | Machinery Steel. | 0 |
| s 33% % 50 dis 50 10 % 00 10 % 1 10&5 % dis 5 % dis 10 % | Ordinary sizes, % to 2 in., Round, Square, Flat and Octagon | 0 |
| 6.25 net | Bessemer, ic. per lb. less. Same Classification. Cut to special lengths, %c. extra. | |
| dis 40 % net 40&5 % | Agricultural Steels. | |
| dis 30 % % % % % % % % % % % % % % % % % % | Fork and Rake. 7 Horse Rake Teeth, to length 7 Finger Bar 7 Forestalk Cutter beveled 7 Planters Hoe, C. 8. 7 Planters Hoe, C. 8. 6 Forestalk Cutter beveled 7 Forestalk Cutter beveled | 000000000 |
| 5716 % 6236 % | Sheet Cust Steets. | |
| 57% % 62% % 62% % dis 55 % 8 37% % | to to so gauge 130. 110. 90. 100. 100. 200. 100. 100. 100. 100. 10 | |
| oo net | Rolls and Castings. | |
| oo net | Ruinace, Floor and Straightening Plates. Housings and Castings not otherwise specified. 346 Guide Plates. 350 Guide Plates. 350 Spin and Castings not otherwise specified. 346 Spin and Polions, large size. 354 Spin and Boat and Plaions, large size. 354 Floor Spin and Spin and Plaions, large size. 356 Rolling Mill Castings under 50 lbs. 467 Spin and Borel Wheels, large. 356 Pulleys up to 35 inches. 357 | e i |
| urrent | Pipe Mill Castings | 000 |
| f 2 per m date | Engine Castings, light. | 0 |
| 3.10 | Chilled Polls | 2 |
| 3.40 3.10 3.20 | 6 to 7 in. diam., 7 to 20 in. long | 0000 |
| 3.20 3.20 3.30 3 50 | Herse Shoes, Etc.—in 100 keg lots. Juniata Horse Shoes | 00 |
| 4.00 | Steel Tee Calks9c per lb., less dis. on quantitie | 8 |
| 3.30 3.50 3.50 3.70 3.70 | Strictly Pure White Lead in Oil, in kegs, in lots o 500 B and over, 84c; less than 500 B, 9c; in 25 and 5 B. Tin Palls, 4c. W B over keg price; 134 B Ti | f on |
| 4-00 4-90 4-90 4-70 | Palls, ic \$\pi\$ bover keg price; assorted, 1 to 5 \pi\$, 10 \$\pi\$ Cases, itc. Dry White Lead, less than so lbs., \$\pi_{\text{c}}\$ c over so ibs., \$\pi_{\text{c}}\$ corresponding to the price of the pri | 00000 |
| 5.2C | be anowed, but not otherwise. | |
| 4-30 | Window Glass. | |
| 5.50 | Per Box of 50 Feet.—Discount 60 %. | |
| 5.00 4.6c | Single Strength. | |
| 4.IC | Size. AA. A. B. C. | |
| above | 6 X 8 to 10 X 14 | 5010 |
| 3.40 3.60 | 15 X 36 to 24 X 30. | 0 |
| | 26 x 46 to 30 x 50. 15.00 14.00 11.25 10.9 30 x 52 to 30 x 54. 15.00 14.00 12.00 30 x 56 to 34 x 56. 17.25 15.50 13.50 | 2 |
| 3.80 | 30 X 50 to 34 X 56 | |
| 4.20 | 6 x 8 to 10 x 15 | |
| 4.50 | Double Strength. 6 x 8 to 10 x 15 | 2 |

ATT'S PATENT SPRING BOLT



g Cabinet Ware. Closet and House Doors, &c.

THE UNIVERSAL

For lifting carriages, wagons, heavy loaded teams, fire engines, railway cars, &c. Four sizes, with patent rubber cushions; will not mar the finest painted carriage. DINSMORE MFG. CO., 235 Washington St., BOSTON Silver medal awarded by Massachusetts Medhanic Charisable Association.
For Sale By Tark, Tark, BEER, BIGZLOW & DOI:81, 5000 liver St.,





GOLD'S PATENT HEATERS

"HEALTH,"

"TUBULAR,"



"HYGEIAN," "PERFECT."

The Best Heaters in the World.

KEYSER "PEACE MAKER" HEATERS.

Gold's Manufacturing

624 to 642 East 14th St., New York.

AXLES, SPRINGS, TOOLS, MACHINERY, CARRIAGE MAKERS' SUPPLIES.

Guy C. Hotchkiss, Field & Co.



FOR MELTING ALL KINDS OF METALS.

Sunny Side Stove Polish.

Lumber Pencils, Foundry Facings and Lubricating Plumbago.

WILE, SIEDEL & CO.,

Nos. 1324, 1326, 1328, 1330, 1332 & 1334 Callowhill St., Phila. GENERAL AGENTS:

Messrs. HALL & CARPENTER, 709 Market St., Phila.







RHODE ISLAND HORSE SHOE CO.,

Horse, Mule & Snow Shoes of the Perkins Pattern.

Works at Valley Falls, R. I., and Buffalo, N. Y. Office, 31 Exchange Place, Providence, R. I. F. W. CARPENTER, President. C. H. PEREINS, Gen'l Manager. R. W. COMSTOCK, Socretary.

ICE CHAIN.

promptly all kinds of

Flat Link Chains.

different sizes of Links, which will be sent upon application.

Providence Tool Co.,

PROVIDENCE, R. I.

Boston Agency, 3 & 15 Pearl St. J. H. WORK.

New York Agency, 11 Warren Street, HENRY B. NEWHALL,

Chicago Agency, 63 & 165 Lake S. H. & E. Y. MOORE.

PIPE-FITTERS'

POCKET NO. 2.

POCKET BOLT



STRONG, LIGHT, EFFICIENT. CHEAP.



PANCOAST & MAULE,

MFG. CO.,

MIDDLETOWN. - - - NEW YORK.

WARRANTED STEEL

Of every description, including Circular, Shingle, Cross-Cut, Mill, Hand, WOOD SAWS, Etc., Etc.

AMERICAN SAW CO.,

Movable Toothed Circular Saws, PERFORATED CROSS-CUT SAWS

And SOLID SAWS of all kinds.

HUNDLEY & HANKS.

NORTH CAROLINA HANDLE CO.



Handles and Spokes, 79 Reade Street and 97 Chambers Street, HARDWARE COMMISSION MERCHANTS.



Successor to LYON & FELLOWS.) Factory and Office, 14 Dunham Place, Williamsburgh, N. Y.



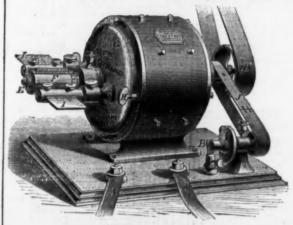
Manufacturers of GALVANIZED PUMP CHAIN FOR CHAIN PUMPS.



Expanding, Self-Draining RUBBER BUCKET. L. M. RUMSEY & CO.

286 Washington Street, Newark, N. J., U. S. A.,

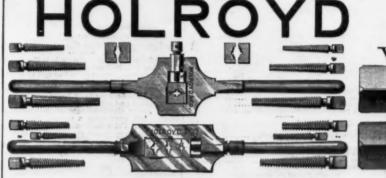
Machines for Electric Light, Electrotyping and Electro-Plating.



THE MOST POWERFUL, SIMPLE AND COMPACT ELECTRIC LIGHT MACHINE IN THE WORLD.

By actual tests this machine has been found to yield more than double the amount of light per horse-power obtained from the machines built in this country. Please send full particulars regarding buildings or localities to be lighted, available power, &c.

Centennial Gold Medal American Institute, 1876. Medal of Superiority, American Institute, 1877. Centennial Medal, Philadelphia, 1876. Paris Medal, 1878.





Forst

The Bh
and Nail V
Forster Cr
less than o
less than o
ore to any
three inch
teed us to e
mess and e
mess and e
we annex
Messrs.
hearly six
durnaces.
In saying ti
one-haif th
saying, afte

No. 1.

CO

THE "EAGLE" ANVIL.



WARRANTED!!

Better than the best English Anvil.

Face in one piece, of BEST TOOL CAST STEEL. PERFECTLY WELDED, perfectly true; of hardest temper and never to come off or "settle." It does not bounce the hammer back, and therefore can do more work with lighter hammer. Horn of tough untempered steel, never to break or bend. Only Anvil made in United States fully warranted as above. None genuine without our trade-mark.

ANVILS weighing 100 lbs. to 800 lbs., 9 cents per lb., with special discounts to the trade.

SMALLER ANVILS ("MINIMS"). No. 00 0 1 2 out 5 10 15 20 Weighing about \$1.75 2.25 2.75 3.25 4.00 4.50 5 6 7 8 50 60 70 80 5.25 6.00 6.50 7.25 Weighing about 50

New York—RUSSELL & ERWIN MANUFACTURING COMPANY, H. DURRIE & CO., TENNIS & WILSON.

Philadelphia—JAMES C. HAND & CO. Boston—GEORGE H GRAY & DANFORTH.

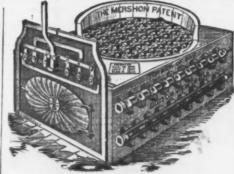
Baltimore—W. H. COLE & SONS, JOHN R. KELSO, Jr.

Louisville—W. B. BELKNAP & CO. Cincinnati—POST & CO. Cleveland—THE LAKE Cleveland-THE LAKE ERIE IRON CO.

FARLEY'S PATENT Rubber-Cushioned Casting Brush. Superior to any in the Market,



L. B. FLANDERS MACHINE WORKS. 1025 Hamilton St., Philadelphia Descriptive Circular on application.



The "Mershon" Patent Shaking Grate and Bar for Steam, Cast and Wrought-Iron Heaters, Steam

Boilers, &c.

Boilers, &c.

This is the most complete, easiest working, and the most successful grate and bayever invented. The attention of manifacturers of boilers and heaters is especially called to it. It has the largest all surface of any grate manifactured, and will generate more heat and steam with the same amount of coal than any other grates. Several sizes supplied, ranging from 18 inches to 50 inches diameter fires. Send for descriptive circular. For license to foundries and others to manufacture address Feensylvania Heating and Ventilating Works, N. W. Cor. Fwelfth and Filbert streets, Philadelphia, Pa.

879.

ıg

THE

om the

1877.

McNab & Harlin Mfg. Co.,

COCKS AND VALVES.



For STEAM, WATER and GAS

Iron Pipe and Fittings. PLUMBERS' MATERIALS

New Illustrated Catalogue and Price List sent by express to the Trade on ap-

Factory, Paterson, N. J.

56 John Street, N. Y.

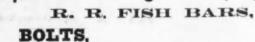
STANDARD NUT CO.,

Pittsburgh, Pa.,

MANUFACTURERS OF



HOT PRESSED Square & Hexagon Nuts,



SPIKES.

RIVETS. &c.

CUYAHOGA WORKS



MANUFACTURES STEAM **Hammers**

LAND

Marine Engines, BLAST FURNACE

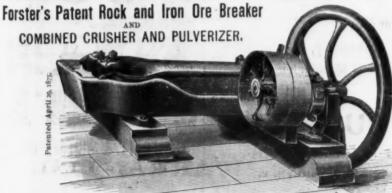
Machinery.

Send for Circulars. Cleveland, Ohio, U. S. A.

MORTON POOLE COMPANY Wilmington, Delaware,

Patent Roll Grinding Machines

greater degree of accuracy is obtained, and as very much less metal is removed from the roll by the grinding operation, the rolls will last much longer. Our Grinding Machines produce perfectly acc ate work, and will grind either straight or hollow.



The Blake Crusher Patent has expired. After six years of practical and constant use at the Etna Iron and Nail Works, Bridgeport, Ohio, to which Company all desiring information are respectfully referred, the Forster Crusher has demonstrated its superiority. If requires but one-third the power to run it. It requires is than one-haif the expense to keep it in repair. It is the simplest machine ever made to accomplish the same amount of work. The saving in steam to run it, and the saving in expense of keeping in repair will be agree and expense of delays. It will break required he are to any required size, and can be so adjusted as to pulvertise to any required size, and can be so adjusted as to pulvertise to any required size and compactly with one to any required size, and can be so adjusted as to pulvertise to any required size—large or small. Its lightness and efficiency make it very desirable for gold and silver mining, all the parts being easily transported. We annex the testimony of a well known and thoroughly practical rolling mill manager:

OFFICE ETNA IRON AND NAIL CO., BRIDGEFORT, Ohio, July II, 1870.

Mesars. TOTTEN & CO.—DEAR SIRS: I have been operating constantly in connection with our works for nearly six years, one of Forster's Crushers, manufactured by you, for crushing ore, used in our puddling furnaces. I have a thorough practical acquaintance with the Crusher in general use, and have no hesitation is saying that the Forster Crusher will crush ore with one-third the power of the black Crusher, and we also had the expense of keeping in repair. The dies can be so adjusted a most efficient Crusher fever saw asying, after using it six years, that it is the simplest, most LEWIS JONES, Manager Etna Iron and Nail Co.

TOTTEN & CO.—Rolling Mill and Heavy Machinery Founders, Pittsburgh, Pa.

TOTTEN & CO., Rolling Mill and Heavy Machinery Founders, Pittsburgh, Pa.



THE "OLD RELIABLE"

UNIVERSAL Clothes Wringer.



oved with Rowell's Double Cog-Wheels on ds of each roll.

Over 500,000 sold! And now in use, giving "Universal" satisfaction

EVERY WRINGER WARRANTED.

Be sure and inquire for the "Universal." Sold by the **Principal Jobbers in Hard-**ware and **House-Furnishing Goods** verywhere.

Special rates given for export.

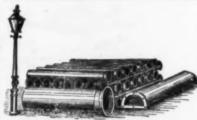
Metropolitan Washing Machine Co. 32 Cortlandt St., New York.

WM. S. CARR & CO



CARR'S PATENT Water Closets

PUMPS, CABINET WOOD WORK, &c 106, 108 & 110 Centre Street, Factory, Mott Haven. . NEW YORK.



Philadelphia, Manufacturers of

Cast Iron Pipe

FOR WATER AND GAS. Lamp Posts, Valves, &c., Mathew's Pat. Anti-Freezing Hydrants



George N. Pierce. BUFFALO, N. Y.,

Manufacturer of

Bird Cages, Refrigerators

HOUSE FURNISHING GOODS.

Send for Illustrated Catalogue.

PHILLIPS, BUTTORFF & CO.,

KENNEDY, SPAULDING & CO., Syracuse, N. Y. HILDEBRAND & FUGATE, Indianapolis, Ind.

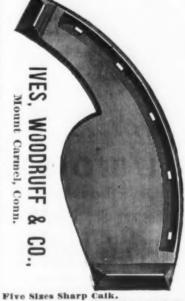
Agents at Nashville, Tenn.

JUST PUBLISHED-SENT FREE. Complete History of Wall Street Finance, containing valuable information for investors. Address Baxter & Co., Publishers, 17 Wall street, New York.

The undersigned, in view of the International Exhibitions to take place in Australia, begs to inform his friends that he continues to make translations of Catalogues, Prices-current, Circulars, Correspondence, &c., from and into the ENGLISH.

and that he bestows special attention upon a strictly correct rendering of Technical Expressions in matters relating to Machinery, Mctallurgy, Hydraulies, &c The very best reference will be furnished from leading manufacturers in this city, Philadelphia and elsewhere, for whom he has translated. If desired, estimates will be procured for the setting up, electrotyping and printing of catalogues, &c. in the above languages.

STEEL TOE CALK.



Five Sizes Stub Calk, Send for Circular.

STEAM ENGINES,

HOISTING ENGINES.

The Norwalk Iron Works Co.,

SOUTH NORWALK, CONN.

BOSTON.

Reported by Macomber, Bigelow & Dowse, 156 to 164 Oliver St. Anvils, -" Eagle American"... Apple Parers, Reading Turn Table. Pd. Goodell Turn Table. Pd. Goodell Turn Table. Table. Lightning. Lightning. Hudson's Turn Table and Push-off. Alken's Toels. dis Anvil & Vine.— No. 1, \$4.50; 2, 3.75; 3, 3.00 each. Asgurs & Bitts.—Snell's Auger.
L'Hommedieu's Ship Augers.
Jenning's Bitts.
Cook's Bitts.
Stearns Hollow Augers.
Sheparason's Double-Cut Bitts.
Gimlets... Stearn's Extension Hollow Augers. Bonney's Pierce's Bitts. Griswold Axes.—Blue Jackets.
Red Cross.
Handied.. Ax Handles.—
Oak Extra, 3t In., No.
34 In., No.
31 In., No.
4 34 In., No.
4 34 In., No.
4 31 In., No.
4 31 In., No. Bells.—Conners Crans Bird Cages. Japanned M. B. & D., reduced list, 1879. Blind Fasts.—Lock Fasts....... Agents at Nashville, Tenn.

IST PUBLISHED—SENT FREE.

Inde's History of Wall Street Finance, containing publishers, by the indexes Address Laxress (and the property of Wall Street Finance, containing publishers, by the indexes Address Laxress (and the property of Wall Street Finance, containing publishers, by Wood, and the property of Wall Street Finance, containing the publishers, by Wood, and the property of Wall Street Finance, containing the publishers, by Wood, and the property of Wall Street Finance, containing the publishers, by Wood, and the property of Wall Street, see York.

SPECIAL NOTICE.

SPECIAL NOTICE.

SPECIAL NOTICE.

Union Spiral Spring. (dis 25 to 100 to

| | 83 |
|---|-----------------|
| | |
| Cocks.—Brass. L. F. & C. Lordage.—Manila, usual trade dis to. Low Ties. No. 90, 3 ft. No. 6 Wire, with toggle. No. 90, 3 ft. " with snap. No. 40, 3 ft. " with snap. No. 40, 3 ft. " with snap. No. 50, 4 ft. " with snap. No. 50, 4 ft. " with toggle. No. 50, 4 ft. " with snap. No. 50, 4 ft. " | dis 35 5 |
| Cow Ties. | dis 25 1 |
| No. 3% 3 ft. " with snap No. 40, 356 ft. " with toggle | . # dog 3.8 |
| No. 45, 33 ft. with snap. with toggle | . # dos 4.10 |
| No. 66, 416 ft. "3 " with toggle | # dog 4.79 |
| Crew-Bars, Cast Steel | P 18 80 |
| Cutlerv.—Pocket. American Shear Co.'s. Butcher Knives, "Woods," Lap Boist | er, |
| Steak Knives. Lap Boister, Oval Handle. | dis 3373 1 |
| Sticking | dis 3314 7 |
| Shoe Knives, "Woods" | is "dfs 253 |
| Dog Collars | dis 20 9 |
| Gem Coll | dos \$1.79 |
| Warners Thurston's" | ₩ dog \$2.24 |
| Drawer Knobs.—"Thurston's" Drills.—Morse Bitt Stock | dis 50 9 |
| Emery.—Wellington Mills | dis 20 9 |
| Alden's. E. ameticd Ware. Standard Mig. Co. Kettles "Sauce Pans Felloe-Plates.—Wrought. Files.—Madden & Cockayne. American File Co. (icholson Filuting Machines. Knoz, with 6 inch rolls Geneva Grander Bitts. Genuine Bitts. Genuine German, No. 125, 1-22 to 5-32, Genuine German, No. 135, 1-32 to 5-32. | dia soltro |
| Sauce Pans | dis 20 % |
| Files.—Madden & Cockayne | dis 25 % |
| King Machines. Knox, with 6 inch rolls. | dis 25 % |
| Geneva. Rochester | ₩ dos 13.54 |
| Gimlet Bitts. Genuine German, No. 125, 1-32 to 8-32, | ner dos Ar.o. |
| | |
| Combination Class Cutter and Knife ener | Sharp- |
| Fierce's Glass Cutters, Combination Class Cutter and Enife ener. Grub Hoes.—K. P. & Co.'s No. z. Hammers.—Maydole's. Hammond's. Hangers & Hollers.—Anti-Friction Acme Rollers. Climax. Novelty. Common. Hand Screws. Hanches.—C. F. Dowse. | . # dos 8.00 |
| langers & Rollers.—Anti-Friction | dis soltto s |
| Novelty | dis 45 5 |
| Hand Screws | dis 404010 % |
| Underhill | dis 25 5 |
| Hinges.—Strap and T (new list) Providence Plate | dis 45&10 % |
| Hoes. W C. & Co.'s. | dis 40 % |
| No. 0 7 8 National Finished 23 .21 .20 | 9 10dis 25 9 |
| Putnam Pointed | at10 f |
| Knobs Norwalk. New list. | dla 55&10 % |
| Hand Screws Hatchets, -C. F. Dowse. Underhill | . # dos 6.50 |
| Descon Militaria Commission | W GOE 8.or |

| | Acme Rollersdis | 508 | H |
|-----|---|-------|------|
| | Climax | dis | 4 |
| П | Novelty | dis | 4 |
| | Novelty Common dis | cus | 4 |
| | Hand Screws | 408 | K |
| - 1 | Canad Control of the | 118 | 20 |
| | HatchetsC. F. Dowse | 128. | I |
| | | | |
| - 1 | Hay Knives, -Lightning # doz #1 | 8,00 | n |
| - 1 | Hay Knives.—Lightning | 458 | H |
| - 1 | Providence Place | - | • |
| П | Providence Plate Wrought Screw Hook. | * | Ď |
| - 1 | HoesW C. & Co. 8 | dis | 40 |
| - 1 | Hooks and Staples Brewers' | dis | 4 |
| | Horse Nalls. No. 0 7 8 9 | | |
| - 1 | National Finished23 .21 .20 .10 | عنه | 2 |
| | Futham Fointed | | . 10 |
| П | Horse NameBridgewater | dis | 2 |
| - 1 | No. 6, 23; No. 7, 21; No. 8, 20; No. 9, | 19. | |
| | Billyon Close | 554 | 110 |
| | Bell Pulls | * * | 19 |
| | Wrought Screw Hook. Hoes. W C. & Co.'s. Hooks and Staples.—Brewers'. Horse Nalis. No. 9 7 8 9 National Finished. 23 21 20 10. Putnam Pointed. 25 23 22 21 Horse Nalis.—Bridgewater No. 6, 23 No. 7, 21 No. 8, 20; No. 9, 20 Knobs.—"Norwalk." New list. dissilver Glass. # do Lanterns.—Tubulars, No. 9 9 de | D# | 0. |
| . 1 | | | |
| П | Railroad, Oil, No. 43. # di Guarded, Oil and Candle, No. 25. # di Triangular. # de | OW | 8 |
| | Guarded, Oil and Candle, No. 25. 28 de | O.W | |
| - 1 | Triangular | 0.00 | 3 |
| | | | |
| н | Lend.—Sheet | | 8 |
| | Pipe | 1 | 21 |
| - 1 | Pipe | dis | Á |
| | Eagle Cabinet | dia | 2 |
| | Trunk | alb | 2 |
| | W. Wilcox & Co., Padlocks,dia | 10 | œ. |
| | American Lock Co.'s Steel Keydi | 8 33 | 134 |
| | Metallic Bleves Mann's Patentdi | 8 20 | , |
| | Manure Forksw. C. & Co | dia | 4 |
| | Matteche, -h. r. & Co., Long Cutter w do | E 8 | ER. |
| | B. F. & Co., Shore Cutter W do | × . | 10 |
| - 1 | Menenying Tunes Eddy's | S | II |
| | Eagle Cabinet. Trunk. W. Wilcox & Co., Padlocks. dis American Lock Co.'s Steel Key. di Metallic Sieves.—Mann's Patent. di Manure Forks.—W. C. & Co. Mattocks.—h. C. & Co., Long Cutter — w do M. F. E. Co. Long Cutter — w do M. C. & Co. Pick Cutter — w do Mean Sutter — w do Mean Sutter — w dies' Challenge Hale's, (New list) American | dis | 24 |
| П | Hale's (New list) | CI IS | 3 |
| | American | dia | 4 |
| | Money Drawers,-Tucker's Alarm 2 do | uis | 3 |
| 1 | American Money Drawers.—Tucker's Alarm . \$\P\$ do Mouse Traps.—Delusion . \$\P\$ de | 200 | 2 |
| - 1 | Novelty # de Nails. # keg. ra Oilers. Zinc and Tin. | O.W. | - |
| - 1 | Nails Wkeg ra | tea | 2 |
| - 1 | Oilers, -Zinc and Tin | dia | 41 |
| | | | |
| | Or Bown - kytra finished and semished | | |
| | 1% in., # dos. pair. \$.75 2 in., # dos. pair. 1% in., ** dos. pair \$.75 2 in., # dos. pair. 1% in., ** dos. pair \$.60 2½ ** dos. pair \$.60 2½ ** dos. pair dis | CHAN | |
| | 1% in. " " 8.00 216 " " Bar. | | 7 |
| | Padlacks,-W. Wilcox & Co.'s | | |
| • | Miller's Brass | 10 | Ε, |
| | Picks,-K. P. & Co., Adge Eye, s to 6 % & de | 30 | 6 |
| | " " 6 to 7 % W de | 180 | 6,0 |
| | Planes -Greenfield Tool Co | 44. | 36 |

| | Hale's, (New list)dis 40 |
|---|--|
| | American |
| | Money Drawers, Tucker's Alarm W dos 622 |
| | Mouse Traps.—Delusion # dox a |
| | Novelty |
| | Nails w keg, rates 2 |
| | OilersZinc and Tin |
| | Brass and Copperdis 3366 |
| | Ox BowsExtra finished and varnisheddis 20 |
| | 134 in., # doz. pair\$5.75 2 in., # doz. pair\$9. 134 in., 8.00 234 |
| | 1% in., " ., 8.00 256 " " II. |
| - | PadlocksW. Wilcox & Co.'sdis 1085 |
| | |
| | Picks.—K. P. & Co., Adze Eye, 5 to 6 h # dos #7. |
| | Gto 7 B P dos 9. |
| 0 | |
| | N. Y. Tool Codis 40 |
| | English Irondis 20 |
| 8 | Plated Ware.—Rogers & Bro |
| 0 | PilersVom Cleff & Co.'s |
| | Button's Wire Pilers |
| 0 | Plumb & Levels, -Stanley, R. & L. Co. dis ockio |
| 0 | Packet Knives. |
| 0 | American Shear Co.'sdis 3246820 |
| | OLIMPIE ELIO. |

| Pocket Editors |
|--|
| American Shear Co.'s |
| Betate Discours -W C & Co midwood Vist |
| Former Pringers W. C. & Co. reduced list dis 4 |
| Pulleys. |
| Acme or Excelsior, 1% inper doz 2 |
| to to sim |
| 2 in |
| Fulley Blocksdig an |
| Pulley Blocksdis 40 |
| Iron Cistern dis 40 |
| to Witch on Ground |
| " Pitcher Spoutdis 40 |
| Copperdia so |
| Rivets,-Black |
| de la |
| Carriage in to b papers dis 30 |
| |
| Razer StrepsTorrey's |
| Wales Stanley |
| Rules,-Stanley Boxwood, dis 65&10 |
| |
| SadirensCommon W B 33 |
| Town days |

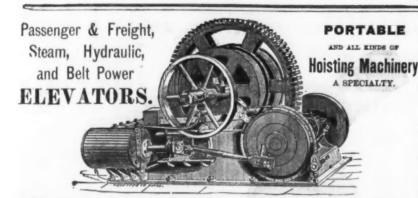
Boynton's Lightning
M. H. & D., Hand Saws.
W. H. & Co.'s, Circular Saws.
Saw Setta. Spring Lever.
Saw Hindes. Diston.
Welh & Griffith, Extra.
Welch & Griffith, Extra.

11 Anvil. RFECTLY

per lb., 40 lbs. 4.50 90 lbs. 8.00

RON CO. aking Grate ast and Steam

asiest work-rate and bar a of manu-rates is especi-largest air ctured, and steam with an any other ed, ranging ameter fires. For license accountage of the con-security of the con-security of the con-security of the con-tense of the con-security of the con-tense of the con-



JRON FURNACE HOIST.

For Handling Stock to Top of Stack with One or Two Platforms.

STOKES & PARRISH, 3001 Chestnut St., Philadelphia.



SHAPLEY ENGINE

Compact, Practical, Durable and Economical.

Acknowledged to be the best in use. This boiler

MANUFACTURED BY

SHAPLEY & WELLS,

Binghamton Iron Works, Binghamton, N. Y.

Stationary Engines and Boilers.

Also Machinery for Mills of all kinds and Taumeries. Also their celebrated Hark Mills, acknowledged to be the best. Send for reduced price list circular.

JOHN ADT,

BUILDER OF MANUFACTURERS' TOOLS, New Haven, Conn., U. S. A.

Automatic machines to straighten and cut wire of all sizes to any length; to cut and mill wire for butt pins, bolt shanks and similar articles; to make all kinds of ordinary mill wire for butt pins, bolt shanks and similar articles; to make all kinds of ordinary staples, with either square, fleam, chisel or shear points; to make all kinds of barbed staples, including those used for blinds; to roll points on picture nails and similar articles without the use of heat; to cut and form wire into various shapes and sizes, such as rings, buckles, fence barbs and the like; combined hand and power machines for straightening and cutting wire, and machines to straighten and cut wire by hand; a variety of roll and rotary wire straighteners; machines for riveting together articles of hardware; to drill butts and other hardware; to mill butts; to drill or countersink several holes at one time, close together or at some distance apart, on a regular or irregular line; for grinding, buffing and polishing; foot, hand and power presses, and dies and tools for the same, to order; also modifications of any of the above, for special purposes.

poses. Send for circulars.

CHUCKS.

F. CUSHMAN.

Hartford, Conn., U. S. A.

Independent 4-Jawed Chucks, from 6 in. to 24 in. in diameter. Common Lever Scroll Chucks, from 3 in. to 24 in. Patent Geared Chucks, from 3 in. to 12 in. Common Geared, from 2 in. to 12 in. A large variety of Chucks for Amateurs Foot Lathes. Drill Chucks for all kinds of machines and purposes. Patent Geared Chucks for Hollow Spindle Cutting-off Machines. Bench and portable Centering Chucks, and special chucks made to order. Satisfaction guaranteed. All of the above are from new patterns, with every improvement a long experience can suggest. Send for price list.



938 to 954 River St. & 67 to 83 Vail Ave., Troy, N. Y.,

VALVES.

Double and Single Gate, % in, to 48 in.—outside and inside Screws, Indicator, &c. for Gas, Water and Steam. Send for Circular.

Also FIRE HYDRANTS.

THORNE, DeHAVEN & CO., Drilling Machines,

21st Street, above Market, Philadelphia.

PORTABLE DRILLS. Driven by power in any direction.
RADIAL DRILLS. Self-feed.—Large Adjustable Box Table.
VERTICAL DRILLS. Self-feeding.
MULTIPLE DRILLS. 2 to 20 Spindles.
HORIZONTAL BORING AND DRILLING MACHINES.
HAND DRILLS. CAR BOX DRILLS.
SPECIAL DRILLS. Yor Special Work.



PITTSBURCH MFC. CO.

Manufacturers of Nail and Spike Machines, Bolta, Kuta, Washers, Rivets, &c., Castings, Forgings and Blacksmith Work promptly attended to. OFFICE & WORKS, Railroad St., near 28th, Pitteburgh, Pa



THE HANCOCK INSPIRATOR,

New Combined Pump and Injector. Eclipses all other appliances hitherto introduced for feeding Steam Bollers. A Portable Boller is not per feet without one. It lifts its water 25 feet with a low steam pressure, and puts it directly into the Boller. No adjustment necessary for varying steam pressures. G. W. STORER, General Agent, 140 N. 3d st., Phila

Manufactured by Crane Bros. Mfg. Co., CHICAGO.



A. S. CAMERON'S

is the Standard of Excellence at Home and Abroad.

For reduced price lists address A. S. CAMERON, East 23d Street, New York.

Babcock & Wilcox Water-Tube Steam

OVER 35,000 HORSE-POWER NOW IN USE. ADAPTED FOR ALL PURPOSES.

SAFETY FROM EXPLOSIONS.

In Sections Easy of Transportation. No Bolted, Screwed or Packed Joints. All Joints Made by Expanding Wrought Iron Tubes into Bored Holes.

Can be Erected or Repaired by Ordinary Mechanic



Easily Cleaned from Soot or Sediment. Adapted to all kinds of Fuel.

Steady Water Line and Dry Steam. No Leaks from Unequal Expansion. Rapid Steaming.

Highest Attainable Economy.

CENTENNIAL EXPOSITION MEDAL AWARDED THIS BOILER FOR HIGHEST ECONOMY AND EFFICIENCY ON TEST.

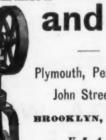
BABCOCK & WILCOX, Engineers, 30 Cortlandt St., N. Y.

Bliss Williams. **PRESSES** and DIES.



SPECIAL MACHINERY

WORKING SHEET METALS, &c. FRUIT & othe CAN TOOLS



Plymouth, Pearl and John Streets,

BROOKLYN, N.



PARIS EXPOSITION, 1878.





COOKE

or to COOKE & BEGGS),

HOPE

Vertical Engines, AND A PATENT

STEAM TUBE CLEANER.

Working on an entirely new principle

DEALER IN

Railway,

Steamship,

Manufacturers'

Mill and Miners

SUPPLIES.

6 Cortlandt Street. NEW YORK, N. Y.

Catalogue on application,

LANE & BODLEY CO.,

STEAM ENGINES, SAW MILLS AND MINING MACHINERY.

LANE & BODLEY COMPANY, Cincinnati, Ohio.



Send for Circular.

AIR ENGINES. NO WATER NO ENGINEER.

No extra insurance! Absolutely safe! Simple! Reliable! Durable Most convenient and economical power known.

SHERRILL ROPER AIR ENGINE CO., ufacturers of Air Engines, Elevators and Hoisting Machinery

91 & 93 Washington Street, New York.

BOLT AND

Proprietors of National Head. Mfrs. of Hand and Power Bolt and Pipe Cutters, Bolt Pointers, Bolt Headers. Nut Machinery, Hot and Cold-Pressed Tupe and Dies, &c. Cleveland, Ohio.



BLAISDELL" UPRIGHT DRILLS



Iss

THE PRATT & WHITNEY CO., Hartford, Conn., U. S. A.,

Make specialties of DROP HAMMERS

Punching Presses, Hand Drilling Machines, Ratchet Drills, Combination Lathe Chucks, Cutters for Teeth of Gear Wheels, Screw Plates, Hand, Machine, Nut and Pipe Taps, Bolt Cutters, &c., &c.



WEST READING PIPE AND MACHINE WORKS, Manufacturers of
Cast-Iron Water and Gas Pipe
of all sizes.
Valves and Hydrants, Flange Pipe
and Lamp Posts. Machinery for
Grist, Saw and Boiling Mills. Also
the celebrated CANADA WATER
WHEEL, the cheapest and best in
the world. Send for pamphlet.
READING PA.

ROCK BREAKERS.

Blake's Patent Expired-End of Monopoly The undersigned, sole owners of the old Leviathan, Gates' patent, and the Brown's patent Rock breakers, will guarantee our crushers to break two tons to one of Blake's (or any other.) Send for circulars. Also Stamp Mills and all kinds of Mining Machinery made on short notice.

Office, 52 Canal Street, Chicago, Ill.
GATES & SCOVILL IRON WORKS.

Shafting, Pulleys,

Hangers, etc., a specialty. Send for Price List to

A. & F. BROWN,

57-41 Lowis St., New York.

Machinery, &c.

JUDSON

It is a common method to advestise Governors without cost, unless satisfactory to the customer, and then charge High Prices for doing what any good Governor will do. Various Governors inferior to the "Judson" are sold in this way, operating well enough for three months, to insure collection of the pay, but becoming uscless after a year's wear—their construction lacking durability. The Judson Governor is guaranteed to not only the best Regulator of Steam Engines, but also the most durable Governor made. Parties in buying other Governors should stipulate that their durability be guaranteed, and should also take care that they do not, for much inferior Governors, pay higher prices than those shown in the accompanying list. We guarantee the Judson Governor will do all any other Governor can do, and in accuracy and durability—the main essentials—we guarantee it shall do more.

Reduced Price List,

OCTOBER 15, 1878. For dimensions of Governor, see Illustrated Price List.

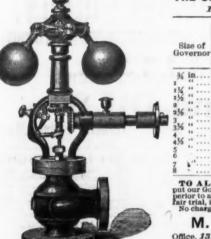


| | Sinc | Plain | H H | Ert for Spe' | Sto |
|----|------|---------|---------|--------------------|--------|
| | 36 | \$15.00 | \$17.00 | \$1.90 | |
| | 34 | 16.00 | 18.00 | 1.90 | |
| | X | 18.00 | 20.00 | 2.00 | |
| | x34 | 20,00 | 23.00 | 2.25 | |
| - | 136 | 23.00 | 27.00 | | \$6.00 |
| 60 | 2 | 27.00 | 31.00 | 2.75 | 7.5C |
| ~ | 234 | 32.00 | 37.00 | 3.25 | 9.00 |
| _ | 23/2 | 36.00 | 41.00 | | 11.00 |
| | 234 | 40.00 | | | 12,00 |
| | 3 | 45.00 | | | 14.00 |
| | 33/2 | 54.00 | 62.00 | 4.50 | 17.00 |
| | 4 | 64.00 | 73.00 | | 21.00 |
| | 436 | 74.00 | 84.00 | | 25.00 |
| | 5 | 84.00 | 95.00 | | 31.00 |
| | 5% | 97.00 | 109.00 | | 37.00 |
| | 6 | 112.00 | | | 43.00 |
| | 7 | 133.00 | 146.00 | 8,00 | 50.00 |

Improved Steam Governor, 10 180,00 176,00 9,00 60,0

No Charge for Boxing or Cartage. JUNIUS JUDSON & SON, Rochester, N. Y.

THE SHIVE STEAM ENGINE GOVERNOR



0.,

Portable Forge

Keystone

CO.,

RS

Ratchet

tters for

and, Ma-

E AND

Gas Pipe

onopoly, old Levi-tent Rock to break er.) Send kinds of

ORKS.

eys,

309

ist to

York.

c., &c.

| | 1 | | | EXTRA FOR | | | |
|---------------------|---------|---------|----------------|-----------------------|---------------|------------------------------------|----------------|
| Size of Governor | | Black. | Fin- ished. | Ball and Lever. | Speed- er. | Auto- matic Safety Check. | Stop Valve. |
| 34 | in | \$16.00 | \$18.00 | \$1.90 | \$0.25 | 8 | \$4.00 |
| I | 66 | 18.00 | 20.00 | 2.00 | 2.35 | | 5.00 |
| 134 | 66 | 20.00 | 23.00 | 3.25 | 2.50 | ***** | 6.00 |
| x36 | ** | 23.00 | 27.00 | 2.50 | 2.75 | 8.00 | 7.50 |
| 3 | 44 | 27.00 | 31.00 | 2.75 | 2.75 | 0.00 | 9.00 |
| 236 | ** **** | 36.00 | 41.00 | 3.50 | 3.50 | 10.00 | 12.00 |
| 3 | 46 | 45.00 | 52.00 | 4.95 | 4.25 | 11.00 | 17.00 |
| 3% | 44 | 54.00 | 62.00 | 4.50 | 4.50 | 12.50 | 21.00 |
| 4 | 66 | 64.00 | 73.00 | 5.00 | 5.00 | 14.50 | 25.00 |
| 436 | 6. | 74.00 | 84.00 | 5.50 | 5.50 | 16.00 | 31.00 |
| 5 | ** | 84.00 | 95.00 | 6.00 | 6.50 | 17.50 | 37.00 |
| 6 | | 112.00 | 125.00 | 7.00 | 7.50 | 19.00 | 50.00 |
| 7 | h" | 132.00 | 146.00 | 8.00 | 9.50 | 22.00 | 60.00 |
| В | | 160.00 | 176.00 | 9.00 | 10.00 | 25.00 | 75.00 |

M. C. & W. D. SMYLIE.

Office, 132 N. Third St., Philadelphia, Pa., U. S. A.
Works, Bethlehem, Pa., U. S. A.



Issues Policies of Insurance after a careful inspection of the Bollers COVERING ALL LOSS OR DAMAGE TO

Boilers, Buildings and Machinery.

STEAM BOILER EXPLOSIONS.

The Business of the Company includes all kinds of STEAM BOILERS. Full information concerning the plan of the Company's operations can be obtained at the COMPANY'S OFFICE, HARTFORD, CONN.,

J. M. ALLEN, Pres. W. B. FRANKLIN, Vice-Pres. J. B. PIERCE, Sec.

Manufacturing Co.

HOMAS O. ENDERS, Sec'y Ætna Life Ins. Co.

NELSON HOLLISTER, of State Bank, Hartford.

LEVERETT BRAINARD, of Case, Lockwood & Brain.

D. R. SMITH, Pres't Springfield Fire & Marine Ins. Co.



A. H. MERRIMAN,

Patent Power

PUNCHING PRESSES.

WEST MERIDEN,

CONNECTICUT.

ASTONISHING POWER in FOOT and HAND PRESSES.



Punching, by foot, 3-4 hole in 5-16 iron 6 inches from edge.

Smaller sizes punch, by foot, 3-8 x 1-4, and 1 inch by 1-8, as rapidly as by power presses, at one-half the cost.

Our largest hand machines punch 1 inch hole in 3-8 iron, and shear bar 3-4 x 2 inches at a cut, any length, one man at the lever.

one man at the lever.
Highest prize, The Grand Medal
of Progress, has just been awarded
us at the American Institute Exhibition. Our presses can also be run by steam

PEERLESS PUNCH and SHEAR CO., 52 Dey Street, New York City.





MANUFACYURABA O BOILERS & ENGINES, ALL SIZES I-HORSE ENGINE AND BOILER, \$150; 2-HORSE, \$175; 2-HORSE, \$200; 4-HOR \$200; 5-HORSE, \$275; 5-HORSE, \$400; 6-HORSE, \$425. WARRANTED THE BEST. SEND FOR CIRCULAR.

Machinery, &c.

Iron and Steel Working Machinery, Machinists Tools, Shafting, Gearing, &c., Injectors.

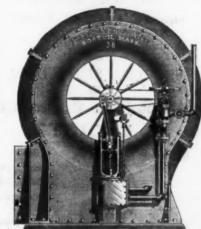


MULTIPLIED MOTION STEAM TRAP. Price, \$12. Suits any Location.

Send for circular giving particulars.

Branch Office, 79 Liberty Street, N. Y.

STURTEVANT **BLOWERS & EXHAUST FANS**



Sturtevant's Patent Steam Fan,

For Blowing Furnaces of all kinds, such as are provided with grate bars; especially adapted for Steam Boilers, Puddling and Heating Furnaces. Coal Screenings and all kinds of refuse coal may be successfully used for fuel by the use of these Fans to create blast. For forcing fresh air into, or taking foul air out from Coal Mines and other places needing ventilation, such as Hospitals, Asylums, Theaters and other Public Buildings, Manu. facturing Establishments, &c. Also for numerou other uses where large volume of air is required.

Sturtevant Patent Exhaust Fan.

For removing Shavings and Dust from Wood Working Machines, Dust from Sand and Emery Wheels, and for Ventilation.

Sturtevant Steel Pressure Blower,

For Cupola Furnaces and Forges, The Blower, which excels all others, produsults with minimum power. Used in the largest establishments in the country, where the stronges

Sturtevant Patent Improved Fan Blower,

For Steam Boilers, Puddling and Heating Furnaces. Send for Illustrated Catalogue to

blast is required.

B. F. STURTEVANT, Patentee and Sole Manufacturer, 72 Sudbury Street, Boston, Mass.

DIES DROP HAMMERS, And Other Tools

THEET METAL GOODS,

Drop Forgings, &c.

THE STILES & PARKER PRESS CO., Middletown, Conn.

NEW OTTO SILENT GAS ENGINE



Working Without Boiler, Steam, Coal, Ashes or Attendance.

Coal, Ashes or Attendance.
Started Instantly by a Match, it gives Full
Power Immediately.

When Stopped, all Expense Ceases.
No explosions, no fires nor cinders, no gauges, no
pumps, no engineer or other attendant while running. Recommended by insurance companies.
UNSURPASSED IN EVERY RESPECT for hoisting in warehouses, printing, ventilating, running
small shops, &c. ung in warehouses, printing, ventilating small shops, &c.

2, 4 and 7 H. P. and upwards. Built by

SCHLEICHER, SCHUMM & CO., 3045 Chestnut Street, Philadelphia.

BEECHER



Send for Price List.

11 Regular Sizes. Hammers from 50 lb. to 2500 lb.

WE HAVE A LARGE STOCK OF SPECIAL DROP PATTERNS. Special attention given to the making

of all Drop Dies.

Special Machinery Fitted Up to Order.

NEW HAVEN, CONN.

Corliss Engine Builders

Machinery, &c



ngineers, Machinists, Iron Founders and Boiler Makers.

ROBT, WETHERILL & CO. Chester, Pa.

Box's Patent Portable Double



The Perfection of Hoisting Ma-

chines. Manufactured in zee from 500 lbs. to send for circular.

ALFRED BOX & CO., Northern Liberty Works,

Northern Liberty Works,

313 & 314 Green Street, Philadelphia, Pa.

Also, Box's Patent Radial Drills, full line of
Machinists' Tools, Drills, Engines, Shafting, Hangers, Pulleys, Hoists, Elevators, &c.

Edwin Harrington & Son

MANUFACTURERS OF
PATENT EXTENSION,
SCREW CUTTING
GAP and TERRET ATHES, Iron Planers, BORING MILLS,
Radial, Upright, Suspension,
Multiple, Lever, Carriage
Makers' Blacksmiths
Hand and Power

DRILLS, and a variety of other MACHINISTS' TOOLS.

Double Chain Screw Pulley Blocks, unrivalled for Durability, Safety and Power. Patent Double Chain Quick-Lift Hoists,

with Brake for quick and easy lowering. Circulars furnished or. N. 15th and Penna. Ave., Philadelphia, Pa., U.S.A.



E. E. CARVIN & CO.,



Presses, bines, Cutter Milling Cut-Bear Cutting

139-143 CENTRE STREET, Cornell's Building, NEW YORK. Send for Illustrated Catalogue



BOYNTON & PLUMMER Manufacturers of

IMPROVED Patent Drills,

Adapted to Blacksmiths' and Carriage Makers' use. **Bolt Cutters and Tire**

Benders, From New and Improved Patterns, Also,

Hand and Power Shapers. 84 Hermon Street, WORGESTER, MASS.

TUBAL SMELTING WORKS, STANLEY G. FLAGG & CO.

PAUL S. REEVES.

MANUFACTURER OF

ANTI-FRICTION METALS.

CAR & MACHINERY BRASSES, INCOT BRASS AND SOLDER, WHITE BRASS.

Old Metals and Brass Turnings Wanted. ESTABLISHED 1842.

WM. & HARVEY ROWLAND. PHILADELPHIA,

P. O. Address : Frankford, Philad'a.

MANUFACTURERS OF ALL KINDS OF

Elliptic, Platform & C

"Brewster Side Bar Combination Patented" Springs.

MADE EXCLUSIVELY PROM SWEDISH STOCK, OIL-TEMPERED and WARRANTED.

Swedish Tire, Toe, Blister and Spring Steel.

CAST SPRING AND PLOW STEEL. CAST SHOVEL, HOE AND MACHINERY STEEL

OXFORD TOE, SLEIGH, TIRE AND SPRING STEEL.

BESSEMER SHOVEL AND PLOW STEEL. BESSEMER MACHINERY AND CULTIVATOR STEEL

RE-ROLLED NORWAY SHAPES.

NORWAY NAIL RODS ROLLED AND SLIT FROM SUPERIOR BRANDS. FRANCIS B. GRIFFIN

JENNINGS & CO., C. E. 98 Chambers St., New York.

Sole Agents for L'HOMMEDIEU and WATROUS & CO., Ship Augers and Bridge Builders' Augers; TRACY, Sected Pattern and Railroad Augers; NOBLES MFG. CO., Carponters' Augers, Bits and Drs KINGS, CO., Carponters' Augers, Bits and Drs Wing LESWORTH SHEAR CO., GEO. S. WILDER, Morrell's' Chieseland Brawing Knives; C VALLEY HARDWARE CO., Solid itead Bits; NEWCOMB BROS., Hand, Moulders' and Blacksmiths' Bel Agonts for H. H. MAYHEW & CO., Shepardson's Bits; BENJAMIN PIERCE, Auger Bits; PHILLIPS CO., Boring Maddings; C. L. JEFFORDS, Axes and Hatchets; BARBER'S Fatent Countersinks; BONK



This lit has no equal for boring hard wood. In cross grain, knots, and the end of the wood its greenority over any other is strongly marked. The solid head guarantees a perfectly straight hous.

Resists Action of Gases. Keeps Silver Plate and Other Metals Always Bright. Except Iron and Steel.

SOLE MANUFACTURERS,

H. V. BUTLER, Jr., & CO., 34 Reade St., N. Y. THE COWLES HARDWARE CO.,

UNIONVILLE, CONN., U. S. A.,



Geer's Single and Double Acting Spring Butts, ON A NEW PRINCIPLE.

pressure is withdrawn to percent. In swing-int 14 inches, and grows gradually less till is reached, where the power is reversed and only butts that by actual test will perform Also, H.L.A.N. H. H!TT'S, designed to be our Double Spring Butts on Inside Doors of



J.M. CARPENTER AWTUCKET.R.I.

Manufacturer of TAPS AND DIES of every description. Also, for sale low, UNITED STATES STANDARD GAUGES, from 1/2 to 3 inch

Under Hainsworth's Patents

We make Castings practically free from blow-holes, of steel which is as soft and as e asily Worked and WELDED as Wrought Iron, yet is STIFF, STRONG and DURABLE, with a TENSILE STRENGTH of not less than 65,000 lbs. to the square inch. In short, our Cast-1998 UNITE THE QUALITIES OF STEEL AND WROUGHT IRON.

Wheels and Pinions, Dies and Hammer Heads, Engine and Machinery Castings of all descriptions Railroad Frogs and Crossings, Plowshares, Moldboards and Landsides. WE USE NO CAST IRON.

Send for circular

PITTSBURCH STEEL CASTING CO., PITTSBURGH, PA.

Merrill Brothers, C. MERRILL & SONS

HAMMERS, FORGINGS and POWER PRESSES.

The Reading Reading, U. S. A. Bolt & Nut Works.

MACHINE BOLTS, HOT PRESSED NUTS.

Railroad Track Bolts, Boiler and Bridge Rivets, Bolt Ends, Washers, Wood Screws, Turnbuckles, Refined Bar Iron, Etc., Etc., Etc.,

PHILADELPHIA. PA.

Office and Warehouse, No. 916 & 918 N. THIRD ST. Manufacturers of

STEEL CASTINGS.

Substitute for Steel and Wrought Ferging

**Circulars sent on application. _______

Steel Castings,

Light and heavy Steel Castings of superior

EUREKA CAST STEEL CO., Office: 307 Walnut St., Phila.

Racket Lantern

that beats the world, you can find it, to-

TUBULAR, DIAMOND, No. 74, No. 76,

POLICE, FARM LANTERNS,

Tubular Street, Square and Side Lamps,

Square Station Lamps,

CORPORATION AND

NEW YORK STREET LAMPS,

54 & 56 Fulton St., New York. R. E. DIETZ.



Send for our new illustrated catalogue. Weissport, Pa.

From 1500 to 50,000 Candle

Power, for from \$100 to \$500.

EXCLUSIVE OF MOTIVE POWER. Samples at 25 Beekman Street, New York.

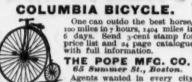
J. E. BRAUNSDORF & CO. Pearl River, Rockland Co., N. Y.

WM. ESTERBROOK



Goal Hu

311 Cherry St., PHILADELPH.





The Patent Combined Dinner-Pail and Lantern. The most perfect Dinner Pai the world. Hot coffee for oner and a Lantern at night,

who will open bicycle schools

Manufactured by JOS. HAIGHT,
PORT CHESTER, N. Y
Bent by express on receipt of
Loc. Special attention gives
o export orders. Traveling
gents Wanted.



AIR COMPRESSORS CLAYTON STEAM PUMP WORKS

Scranton Brass Works, J. M. EVERHART, BRASS WORK, Carr & Wilcox's Patent Cut Files.

Will cut faster, wear longer, and clog less than any File in the market.

CHIE Street, SCHANTON, PA. AN & CO., Agents, to John St., New York

RUSSELL, BURDSALL & WARD

Port Chester, N. Y.,

CARRIAGE, TIRE, PLOW, STOVE AND OTHER

CARRIAGE BOLTS MADE FROM BEST SQUARE IRON A SPECIALTY.

Green River Works.

Table and Pocket Cutlery,

BUTCHERS', HUNTERS', PAINTERS', DRUGGISTS' & HOUSEHOLD KNIVES IN ALL STYLES AND VARIETIES.

FIRST HOME MANUFACTURERS.

New York Office,

90 Chambers Street.



Factories, Turners Falls, Mass.

FROM 1-4 TO 10,000 LBS. WEIGHT, True to pattern, sound and solid, of unequaled strength, toughness and durability. An invaluable substitute for forgings or cast iron requiring three-fold strength. Gearing of all kinds, Shoes, Dies, Hammerheads, Crossheads for Locomotives, etc. 12.000 crank Shafts of this steel now running proved superior to wrought fron. CRANK SHAFTS, CROSSHEADS AND GEARING ARE SPECIALTIES. Circulars and Price Lists free. Address

CHESTER STEEL CASTINGS CO., 407 Library St., Philadelphia. Works, Chester, Pa.

E. M. BOYNTON. Manufacturer of all kinds of HEW YORK E.M. BOYNTON'S PTE MCH. 281875.
ONE MAN CROSS CUT

First-Class Saws, Saw Frames, Cross-Cut Handles, Tools, Files, &c.

CENUINE PATENT LIGHTNING SAW.

SO BEEKMAN STREET, NEW YORK. OFFICE AWS WORE effectually tested before the judges at the Phila-Fair, July 6th and 7th. An ash log, 11 inches in diameter, was saved he a 4½ foot lightning cross-cut, by two men, in precisely 6 seconds, as so the chairman of the Centennial Judges of Class Fifteen. The speed eccedented, and would cut a cord of wood in 4 minutes. The repre-ves of tsussia, Austria, France, italy, Spain, Belgium, Sweden, England, eral other countries, were present, and expressed their high appare."

Received Medal and Highest Award of Centennial World's Fair, coo challenge was prominently displayed for six months, and the MANAMAN MANAMA Pat. Saw Set.

Per Pair. Size. Per Pair. \$0.80 3 inch. \$1.60 1.00 4 inch. 2,00 1.25 s inch. 2.50 6 inch. 7 inch. 4.50 8 inch. 10 inch. 9.00 6.00 12 inch. 12.00

ALSO, American Spiral Spring Butts. Gem Coil Door Springs, Star Coil Door Springs, Torrey Rod Door Springs,

Bee Rod Door Springs, Gray's Rod Door Springs, Domestic Blind Adjusters.

Send for Complete Catalogue.

VAN

Manufacturers. 82 Beekman Street, New York.

BALTIMORE RIVET AND SPIKE WORKS.

Rivets, Spikes, Bolts, Nuts,

Washers, Bolt Ends, Wood Screws, Track Bolts.

WM. GILMOR of WM., cor. President & Fawn Sts.

by rubb and grap green eff into a salt, 10 p of acetat of soda is if finish is p and subsold green and a fin green is p Prof. Jecont num Science and S THE GEO which is it he believe of the sec ing the p Survey, mittee of

as over about the second secon

Wit

fects

as descarbon

lowest brough

which i

second has tw

carbons

to the a

positive

In the

MI

veys, one veys, one good of the intervention o